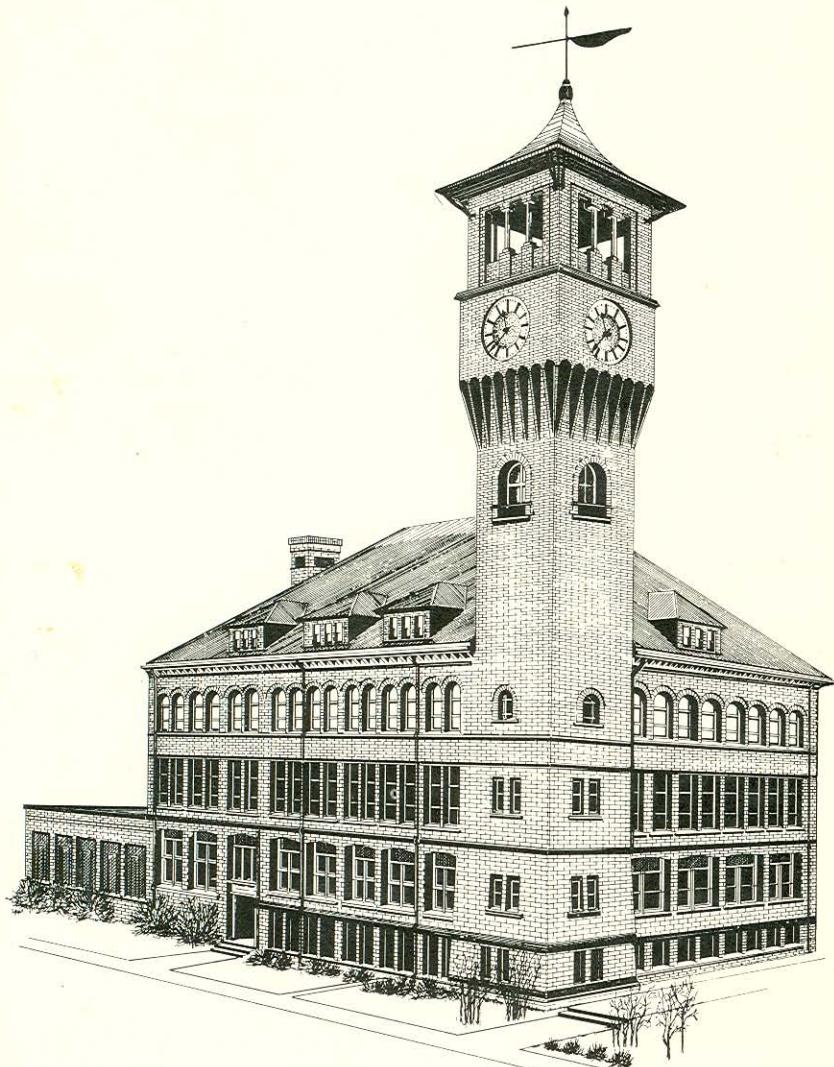


UNDERGRADUATE BULLETIN

1982-83



University of Wisconsin-Stout - Menomonie, Wisconsin

Undergraduate Bulletin

Catalog of Courses 1982-83

**University of Wisconsin-Stout
Menomonie, Wisconsin 54751**

AN EQUAL OPPORTUNITY UNIVERSITY

For information concerning the University or any of its programs, write to: Director of High School Relations, University of Wisconsin-Stout, Menomonie, WI 54751. Telephone (715) 232-1232.

Volume 63

The University of Wisconsin-Stout is an Equal Opportunity, Affirmative Action employer and does not discriminate on the basis of sex in the educational programs or activities it operates, including employment and admission. This statement is published in accordance with Section 86.9 of Title 45 of the Code of Federal Regulations, implementing Title IX of the Educational Amendment of 1972. Inquiries concerning Affirmative Action, Title IX and Equal Employment Opportunity may be directed to the Assistant to the Chancellor, University of Wisconsin-Stout, Menomonie, WI 54751.

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ACCREDITATION

- North Central Association of Colleges and Secondary Schools
- National Council for Accreditation of Teacher Education

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GENERAL INFORMATION

TO NEW STUDENTS

At least part of the information you need in reaching your decision to attend Stout can be found on the following pages. The catalog places primary emphasis on the major programs offered by the University and descriptions of the courses within those programs. Fee, financial aid and housing information is also explained. Other students have found campus visits and discussions with staff members extremely helpful in reaching their decision. If possible, write or call for an appointment to visit the campus. The number is (715) 232-1232.

THE UNIVERSITY

Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1893 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the

traditional curriculum. Since its founding, Stout has gained a position of national leadership in industrial, vocational, and home economics education. Its programs in those fields are among the largest in the world. Although Stout is a career-oriented university, it has had the foresight to make the humanities and social sciences key parts of the total educational program.

THE FACULTY

On most campuses, expertise in teaching is no longer the concern only of the faculty and administration—students are equally concerned. Because Stout has specialized in certain areas, a staff comprised of individuals nationally recognized in their fields has been developed. All classes are taught by the faculty with the exception of several laboratory courses. The student-teacher ratio is about 20-1 overall. Of a staff of 450, a high percentage holds doctorates while others hold special degrees in their fields. One of the fine traditions at Stout has been the faculty's commitment to provide extra help to students.

FACILITIES

The University's instructional programs are supported by some of the most modern and well-equipped facilities to be found anywhere. To keep pace with growing enrollment and the increased needs of education, more than \$15 million in classroom, laboratory and library construction has been completed recently. Sophisticated audio-visual and computer centers serve the entire campus. An open laboratory policy encourages out-of-class study, research and experimentation. The 120-acre campus is adjacent to the central business district and Lake Menomin. The University's library is a completely integrated research collection of audiovisual software and print materials. A complete hard copy collection of ERIC is available and is complemented by computerized on-line search capability. Outstanding specialized collections in guidance, industrial education, home economics, vocational rehabilitation, vocational education, and hotel and restaurant management are featured.

STUDENTS

In terms of enrollment, Stout is not a local or state school. Its 7,200 students come from every state in the nation and, at last count, 40 foreign countries. Students have a major voice in the affairs of the University and sit on important University committees. Besides regular and informal meetings with students, the University's Chancellor has "an open door policy." More than \$250,000 in student activity funds are administered by student government. There are more than 100 student clubs and organizations on campus, including national fraternities and sororities.

THE COMMUNITY

For many reasons, students like Menomonie and the surrounding area. Lakes, rivers and hills enhance the countryside. The area is in the heart of Wisconsin's vacationland with

every winter and summer sport near at hand. Major entertainment and cultural attractions are available on campus and in nearby (60 miles) Minneapolis-St. Paul. Menomonie's population is 12,000.

ADMISSIONS

Application for admission forms may be obtained by writing the Director of Admissions at Stout or from any Wisconsin or Minnesota high school guidance office. Although there are general guidelines, each applicant is considered on an individual basis.

NEW FRESHMAN

High school students should apply for admission early in their senior year. Applications are accepted by the University as early as Oct. 1. There is no deadline for applications. However, because of enrollment limitations, a student who applies early may gain some advantage in admissions and in securing housing and financial aid. (During 1978-79 denial of applications began as early as mid-November.) High school graduates who rank in the upper three-fourths of their class are admitted in good standing. High school graduates who rank in the lower one-quarter and have an ACT Standard Composite score of 17 or more also are admitted in good standing. (SAT or CQT may be substituted for ACT.) High school graduates who do not meet those requirements may be considered for admission and are encouraged to carry a lighter load and participate in special programs provided for them. The Director of Admissions has the authority to accept any person who is not a high school graduate if factors indicate an ability to profit from a university education.

Deferred Admission Students who desire to work for a few years or enter military service may process an application for admission now to gain contact with Stout in the event an opportunity for part-time study arises elsewhere. This will enable the student to check on the transferability of course work and at the same time, keep posted on pertinent changes at Stout.

SENIOR CITIZENS

Wisconsin citizens aged 62 and over may audit all classes at Stout free of charge. Others who do not wish to receive credit for courses taken may also audit courses by paying half of the normal fee.

TRANSFER STUDENTS

Transfer students should apply for admission and forward an official transcript early in the last semester at their present college. Tentative admission can be given after a preliminary evaluation of transfer credits. An early application for admission offers the opportunity for pre-registration for classes and financial aid clearance. Enrollment limitations may result in nonacceptance. Therefore, early planning and applications are important.

Two-Year UW Centers and Accredited Colleges and Universities Normally, students with an overall "C" average at their previous institution(s) can be admitted. Students with less than a "C" average can be admitted under certain circumstances, but should consult with the Director of Admissions for an evaluation. The University of Wisconsin System policy allows a maximum of 72-semester credits to transfer from two-year centers.

UW CENTER SYSTEM TRANSFERS

A booklet designed to assist UW Center System students who are interested in transferring into one of Stout's specialized programs is now available through Center System's counselors or Stout's Admission office. The booklet matches courses offered by the Center System with the individualized requirements of Stout's programs. By following program plans in the booklet, students can earn credits at any Center System campus and be certain those credits meet specific program requirements at Stout. The booklet is the result of a cooperative effort by Stout and Center System officials to compare courses offered by the Center System with requirements at Stout. Usually, students can take at least one year of study at a Center System campus—in some cases two—before transferring to Stout.

VOCATIONAL, TECHNICAL AND ADULT EDUCATION INSTITUTES

College Parallel Program Credits for the first two years of college work satisfactorily completed in college parallel programs will normally be accepted at Stout. (In Wisconsin, these are VTAE programs at Madison, Milwaukee and Rhinelander.) Generally, a student may transfer up to one-half the credits required for a degree at Stout, but not more than 72. A student transferring to Stout is expected to complete all program requirements.

Non-College Parallel Program Stout will accept selected credits outside the college parallel program as long as a direct linkage can be shown between those courses and the student's proposed major area of study at Stout. General education or liberal arts courses taken outside the college parallel program will not usually transfer. However, the student will be given every opportunity to earn credit by examination in those areas. A student transferring from a non-parallel program must complete an application for admission and forward official transcripts from the last institution attended.

ADULT SPECIAL STUDENTS OR VETERANS

Adults may be admitted even though they have not completed high school if scholastic ability is indicated through tests and interviews conducted by the University. Those who expect to enter as adult special students should arrange for an interview with the Director of Admissions well in advance of the desired entrance date. There is a special Veteran's office affiliated with the Registrar's office to assist the entering veteran.

SPECIAL PROGRAMS

Stout offers students opportunities to earn credits outside the classroom as well as in. Certain programs allow students to earn credit by examination. Field Experience and Independent Study should be investigated by students for the purpose of earning credit. These special programs and others are outlined below.

INDEPENDENT STUDIES PROGRAM

Students at Stout may design a limited number of special topic courses for credit through the University's independent study program. This program is open to students during any enrollment or course-add period. Students may initiate the process by obtaining an application for independent study from the office of the assistant dean of the school in which this independent study is to be offered. The student then completes the form by identifying the course objectives, methods and evaluation process to be used and submits this to an independent study coordinator for further processing for approval. Credits are awarded on the basis of expending a minimum of 48 hours of effort for each credit and an evaluation of the extent to which the stated objectives were met. Independent study topics are ordinarily those not offered through existing courses. Approved independent study courses are completed by the student in consultation with the assigned independent study coordinator who provides counsel and aid to the student in achieving the approved desired learning objectives.

Students should consult in advance with their program director to find out whether the proposed independent study may be used in the degree program.

TECHNICAL SERVICE SCHOOLS

Many manufacturers offer special purpose technical courses. Some of them are suitable for college credit. See the course description for details.

FIELD EXPERIENCE PROGRAM

Students are encouraged to obtain part of their college education off the Menomonie campus through the Field Experience program. This program allows students to receive academic credit for learning related to their major or minor, while employed in an approved off-campus field position. Most students use their summers to enroll in this program, but part-time work is usually permissible. Field experience information can be obtained from the Dean's office in which the student's major is housed.

OFFICE OF CONTINUING EDUCATION

Stout offers one of the largest programs in the state in evening and Saturday morning extension classes. Credits may be earned through enrollment in these off-campus courses. They are accepted to Stout on the same basis as they are to other colleges and universities.

Registration for these courses is completed at the first class meeting by a representative of the University or by the instructor.

CREDIT BY EXAMINATION

Stout has several procedures which permit students to demonstrate their competence through externally and internally developed examinations. External examinations include the College Level Examination Program (CLEP) and the Advanced Placement program (AP). Internal credit by examination is possible by "Test Out" procedures developed by various Stout departments. Student testing out of a course by external or internal examinations will be charged a testing fee.

INDUSTRIAL WORK EXPERIENCE

A maximum of 24-semester hours of technical credit may be earned through examination by those students who have completed three years of skilled occupational experiences beyond the learning level of a trade. Students with less than this amount (seven years) of experience may request examination in specific technical courses upon presentation of evidence of appropriate work experience in that area. Students desiring credit for skilled occupational experiences should present evidence of the required amount of work to the program director of Vocational Education (Trade and Industry) shortly after registration to allow special program consideration.

BUSINESS AND INDUSTRY INTERNSHIPS

Business and industry internships are available through the School which provides the major. Some internships are of the summer type and only three months, while others are at least six-months long. The minimum requirements are usually stated as junior or senior standing, candidates are company screened and the position is para-professional. Contact any School Dean's office for details about the program in that School.

THE AMERICAN COLLEGE IN LONDON

The American College in London semester provides supplemental learning experiences to students enrolled in the fashion merchandising and apparel, textiles and design programs. This four-year college offers programs that are, in part, parallel to Stout's program. It provides an opportunity to live where there are long traditions related to textile and apparel design. One of the major retailing centers in the world, London provides opportunity for the study of a variety of businesses and exposure to many cultures.

SUMMER SESSION

Stout conducts a 10-week summer session with classes varying in length from one week to eight weeks. Students may pre-register or register each Monday of the week their classes

are scheduled to begin. It is possible to earn 10 credits during the 10 weeks of summer session. Graduate students are encouraged to contact the Graduate College early in the spring. The Summer Session Bulletin is available after March 1. A copy will be sent on request. Pre-enrollment is encouraged in April and May.

PIGEON LAKE

The University of Wisconsin System sponsors summer programs at the Pigeon Lake Field Station near Drummond in Bayfield County of northwestern Wisconsin. Station offerings include undergraduate and graduate courses in field biology and in mapping, outdoor education, recreation, and art. Sessions vary from two to six weeks in length with a variety of biology courses offered on a rotating basis. Credit earned at the Station is accepted as residence credit at Stout. The Field Station is located in a natural outdoor laboratory among the lakes, streams and forests of relatively unspoiled portions of northern Wisconsin. For additional information, contact Stout's Registrar.

THE GRADUATE COLLEGE

The Graduate College, a unit of the Division of Academic Affairs has the general responsibility for graduate education in the university, and administers graduate admissions, records, policies and other procedures relating to graduate students. Graduate programs are administered as follows: School of Industry and Technology - Master's programs in Industrial Education, Management Technology, Safety, Vocational Education, and Educational Specialist's program in Industrial and Vocational Education; School of Home Economics - Master's programs, in Clothing, Textiles and Related Art, Food Science and Nutrition, Home Economics Education, and Hospitality and Tourism; School of Education - Master's programs in Guidance and Counseling, Marriage and Family Therapy, Professional Development, Education - School of Psychology, Vocational Rehabilitation, and Educational Specialist's program in Guidance and Counseling; Learning Resources - Master's program in Media Technology.

FINANCIAL INFORMATION

Since the catalog must be prepared far in advance, all fees, room and food rates, and other charges are subject to change without notice. Students are expected to pay all fees according to the procedure outlined in the Student Handbook. Failure to pay fees may result in suspension. Stout offers an opportunity to pay fees in installments. This program requires \$200 plus miscellaneous charges or total payment at registration, whichever is less. The balance is due in two equal monthly installments. The fees on the following schedule incorporate the usual student costs such as textbook rental, Student Center, student activity and health fees. However, the schedule does not include lab or material fees charged in some courses.

SEMESTER COSTS

The "non-resident" referred to on the schedule is defined as any student who has not been a resident of Wisconsin (or receiving Minnesota-Wisconsin Reciprocity) for one year preceding his admission. Undergraduate fees are set by the University of Wisconsin Board of Regents and are subject to change. Semester fees for undergraduate students registered for 12 or more credits are:

Resident:	\$ 432
Non-resident:	1,479

MINNESOTA STUDENTS

Under the current reciprocity agreement approved by Minnesota and Wisconsin, students from Minnesota can attend public universities in Wisconsin and pay resident tuition rather than non-resident tuition. An application for reciprocity must be filed prior to the end of the period of enrollment.

SPECIAL INTEREST—SPLIT PROGRAM STUDENTS

Special interest students and students enrolled in split programs should inquire about the fee structure as it relates to them at the time of registration. Generally, a special interest student is an individual who does not expect to apply the earned credit toward a degree. A split program student is an individual who is enrolled in both graduate and undergraduate courses at the same time.

REFUND ON FEES

Withdrawal from semester courses generate refunds based on the following schedule: First week of classes, 100 percent; second week, 80 percent; third week, 60 percent; and fourth week, 40 percent. After the fourth week, there is no refund. Refunds for room and food service charges are based on the date of withdrawal.

UNPAID OBLIGATIONS

The University views a student's failure to meet his/her financial obligations as a very serious matter. Therefore, unpaid obligations of any nature due and payable by a student to Stout constitute valid reason for suspension from the institution upon failure to clear the obligation within a stated reasonable length of time. This includes all items such as library fines, assessments for damages in laboratories, residence halls, etc. The student is subject to suspension upon failure to clear within 15 days after notice is given and may not register for any succeeding terms until such obligations are cleared.

HOUSING INFORMATION

Residence hall living is a meaningful part of a student's life at Stout. With the help of a professionally trained staff, students achieve their goals through a variety of social, educational and recreational activities. The University provides residence hall accommodations for approximately 2,900 students.

Freshmen and sophomores (59 credits or less) are required to live in the residence halls as long as space is available. Exceptions are made for veterans, married students and students living with their parents.

Students may and are encouraged to apply for residence hall accommodations immediately after being accepted to the University. An application card for the residence halls accompanies the letter of acceptance sent to the student by the Admissions office.

Contracts for residence hall rooms are sent to the students in the order in which applications for rooms have been received. Normally, students applying for residence hall space prior to March can be accommodated for the next academic year. A \$75 surety deposit is required with each contract. This deposit is applied against the final payment for the second semester. Rooms may be occupied the day prior to registration each semester. The contract is valid for the entire academic year.

Each room is furnished with two single beds and innerspring mattresses, dressers, study tables, chairs and bookcases. It is suggested that students not bring additional furniture. The rooms are approximately 11 feet by 15 feet. Radios, stereos and television sets are permitted in the rooms provided the students comply with the regulations for the use of this equipment. Television sets are also available for general use in the main lounge of each building. Small refrigerators are available on a rental basis.

Students living in residence halls are required to contract for their meals in the food-service facilities as provided. The meal contract plan provides various options. Cooking in student rooms is not permitted. Kitchenettes are available in each residence hall.

The University Housing office attempts to maintain a list of off-campus housing currently available. These are available upon request. Those planning to reside off campus may find it useful to visit Menomonie to secure the type of housing desired.

SCHOLASTIC STANDARDS

SEMESTER CREDIT

Credit is expressed in semester hours. A credit of one semester hour represents the satisfactory completion of the work of one recitation a week for a period of one semester. A course having five recitations a week will therefore give five semester hours of credit. In order to receive a degree, the student not only must gain the required number of credits in the course being pursued, but also must attain a certain standard of scholarship.

SUSPENSION AND PROBATION

A 2.0 grade point is needed for graduation. Education programs require 2.25. A lower grade point average at any time, although it may not result in probation or dismissal,

cannot be construed as satisfactory progress toward a degree. Minimum acceptable standards for retention are defined as follows:

(1) First semester freshmen will be placed on probation if they achieve a grade point average less than 1.7 at the end of the semester. They will be suspended if their grade point average is less than .75 at the end of the semester.

(2) Second semester freshmen will be placed on academic probation if their cumulative grade point average at the end of the second semester is less than 1.8. They will be suspended if their grade point average is less than 1.0 for the semester.

(3) First semester sophomores will be placed on academic probation if the student's cumulative grade point average at the end of the semester is less than 1.9; the student will be dismissed if the current grade point average is less than 1.0 for the semester.

(4) Second semester sophomores or an upper division student, will be placed on academic probation and may be dismissed at the end of any semester in which the student's cumulative grade point average is less than 2.0; the student will be dismissed at the end of any semester in which the current grade point average is less than 1.0.

A student who has been declared academically ineligible to continue may request a hearing to appeal.

Generally, individuals placed on probation will not be allowed to continue on probation more than two semesters.

A student also will be in violation of academic standards if courses are not successfully completed each semester. Not receiving passing grades in more than five credits registered for during a term will result in probation and could, if continued, result in dismissal. This is true even if grades in courses completed exceed a "C" average.

REQUIREMENTS FOR GRADUATION

The semester credit hours required for graduation vary slightly with the major and are stated under the program of study for each major. The normal time required for the completion of these requirements is four years and results in the awarding of the bachelor of science or bachelor of arts degree. Meeting the requirements for graduation is a responsibility of the student. To fill the minimum residence requirement, the last 32-semester hours of credit (64 grade points) must be earned in residence at Stout. Candidates for degrees are required to file an Application for Degree card with the Records office one semester prior to graduation.

GRADE POINT AND SYMBOLS

A	= 4 grade points	W	= Withdrawn
B	= 3 grade points	I	= Incomplete
C	= 2 grade points	NG	= No grade reported
D	= 1 grade point	P	= Pass (no grade points)
O	= Outstanding (no grade points)	F	= Fail
S	= Satisfactory (no grade points)	IP	= In Progress
U	= Unsatisfactory (no grade points)	M	= Mastery (no grade points)

GRADUATION WITH HONORS

In each graduating class, the selection of students for honors is based upon scholarship. Upon completion of a student's undergraduate work, a minimum cumulative grade average of 3.200 in 60 or more credits must have been earned. The designations Cum Laude (3.2 - 3.499), Magna Cum Laude (3.5 - 3.799) and Summa Cum Laude (3.8 - 4.000) are used. For commencement purposes, the cumulative GPA earned at the end of the semester preceding the commencement ceremony will determine recognition at the commencement ceremony. However, honors will be officially determined at the time of final graduation checkout. A transfer student who has from 32 to 59.5 credits earned in residence will be considered for honors if the student's prior school(s) records met or exceeded the appropriate standard. Honors will be listed on the student's transcript and will appear on the diploma.

CHANCELLOR'S AWARD

Universities recognize many different kinds of achievement, all important parts of a total education. Since scholastic achievement is the basic purpose of higher education, academic excellence is acknowledged by the University through the Chancellor's Award. Students who receive a semester grade point average of 3.5 or above qualify for the award.

TEACHER CERTIFICATION

Teacher education programs at Stout have been established to meet state teacher certification in Wisconsin. Programs will likely meet certification requirements in many, if not all other states. However, teacher certifications vary by state (may require state history, etc.) and requirements change periodically. Therefore, a student contemplating teaching in another state may wish to clarify the acceptance of the program at Stout by the state in which they plan to teach. The office of the School of Education and Human Services serves as a resource in this follow-up. The state education office of the state involved is also a resource in answering this question.

CREDIT REGISTRATION AND OVERLOAD POLICY

Courses are designed and graduation requirements are established so that a normal semester credit load is 16 or 17 credits. Students should only pre-register or complete final registration for those classes they fully intend to complete. Students may not register for classes which conflict with other class(es).

Undergraduate students with the exception of graduating seniors will be restricted to 16 credits during pre-registration. Once pre-registration is completed, students may add credits up to a maximum of 20 during the final Registration Add/Drop period.

ADD/DROP POLICY

Careful planning should lead to schedules for students which are sound individual programs. The majority of students should not have a need for adding or dropping once classes start. Occasionally, conditions exist which do not permit students to carry through their course plans.

The following policy serves as Stout's procedures for adding or dropping classes:

Students are expected to complete courses for which they register. Students who wish to adjust their class schedules may add or drop classes before the end of the second week of semester or quarter classes. Drops made during the first two weeks of a semester course or the first week of a quarter course will not appear on a student's transcript. If students deem it necessary to reduce their program after the normal (two week) Add/Drop period, they should do so as early as possible. Drops made after the second week and before the midpoint of the course will be shown on a student's transcript with a grade of "W" (withdrawal) recorded. Drops after the midpoint of a course will appear on the transcript with a grade of "F," unless they are result of illness or extenuating circumstances.

FALSIFICATION OF RECORDS

Students are expected to provide the University with accurate information concerning their past, personal and educational history. The University policy indicates that any students who intentionally falsifies or omits information given as part of his University record, becomes subject to automatic suspension.

PROCEDURE FOR WITHDRAWAL

Withdrawal should be undertaken only after serious consideration. Persons intending to withdraw must schedule an exit interview at the Student Services office and complete a withdrawal form. A student who fails to withdraw officially from the University will receive a grade of "F" in all courses being pursued. Withdrawals after the midpoint of a term or course will generally result in "F" grades or grades as assigned by individual instructors.

FINANCIAL AIDS

The primary purpose of financial aids is to provide educational opportunities to financially needy students who, without such aid, would be unable to attend college and to alleviate financial worries as a source of concern for students.

The basic premise for all need based financial aid programs is that the primary responsibility for financing a student's education rests with the student and his/her family. The Federal and State aid is intended to meet those educational costs which remain after the student's resources and a reasonable expected contribution from his/her parents have been taken into account. To determine student need and award aid consistently and fairly, parents and students are required to fill out a financial statement listing their income, assets and liabilities. On the basis of this financial statement, the financial aid officer can deter-

mine the need, which is the amount parents and students can be expected to contribute subtracted from the cost to attend Stout for the year. Students are expected to contribute a portion of their assets as well as a standard expected savings (\$700 Freshman, \$900 Sophomore, Junior and Senior) from summer work.

Financial aid must be applied for annually. Financial assistance is awarded for the entire academic year. Each applicant is considered for all types of aid for which the applicant is eligible according to State and Federal regulation.

Financial Aid Proposals (awards) are based on full-time status, 12 credits or more. Students must consult with the Financial Aids office if planning to carry less than a full-time credit load as an adjustment will have to be made in the aid award.

Applications are processed on a first come, first served basis. The earlier the submission of applications, the better chance to receive funds. Applicants whose forms are in early are notified whether or not they are eligible for financial aids between June 1 and June 30.

Because of the frequent changes in rules, regulations and procedures of State and Federal programs as well as the infrequency of this publication, accurate information about the specific programs is not possible. Current information will be sent upon request from the Financial Aids office.

Financial Aids counselors are available for consultation concerning efforts in financing an education. Students may wish to include a stop at the Financial Aids office if planning to visit the campus. Please call (715) 232-1363 or write for an appointment. The office is located on second floor of the Modulux building.

STUDENT SERVICES

Student Services has as its primary function the stimulation of student development in all phases of life. Student Services at Stout is concerned with maintenance/service oriented functions. Equally important are the educational and developmental functions which include tasks such as researching student needs; assisting students in assessing their own needs, potential, and development in their personal, academic and career vectors; motivating students to develop a commitment to growth in all areas of life; and assisting students in the integration of formal and informal educational experiences.

STUDENT ACTIVITIES

More than 100 student organizations and activities are represented on campus. They share a common purpose in providing opportunities which will help meet the extracurricular needs of students. Such diverse interests and organizations as band, dramatics, yearbook, newspaper, forensics, chorus, religion, politics, recreation, fraternities and sororities offer experiences which allow students to continually develop their interests. The University also has a complete recreation and intramural program for men and women.

STUDENT CENTER

The Memorial Student Center features lounges, snack bar, bowling, billiards, coffee house, bookstore and a recreation equipment rental center (camping equipment, canoes, bicycles, etc.).

NEW STUDENT ORIENTATION

A summer orientation and registration program provides new freshmen and their parents an opportunity to become better acquainted with the campus. During these scheduled one-day visits, parents become involved in a variety of orientation activities while students are provided with important information about degree programs, career opportunities, and academic advisement in course selection. The students develop the fall semester class schedule. Transfer and reentry students are also invited to campus during the summer to receive advisement and develop a class schedule. During the first few days of the fall semester, new students receive additional help through planned activities.

PROJECT ASPIRE

Project ASPIRE is a federally funded program that provides support services to selected students. The project offers activities and programs to aid individuals in achieving academic success. Individual assistance, tutoring programs in academic areas, along with career development activities, and services to the handicapped students are available. Individuals interested in obtaining services should contact members of the ASPIRE staff.

COUNSELING CENTER

Counselors are available to each University student to assist in deriving the maximum benefit from his university career. Counseling often provides a means to continue growth in self-understanding and in understanding others. Many decisions regarding educational, vocational or personal-social choices can more effectively be made with the help of a counselor. Counseling, psychological testing, and an extensive college catalog and vocational information library are available to all students who desire such assistance. Use of the Center is voluntary and is free of charge to Stout students. The vast majority of students using the services of the Center are experiencing "normal" kinds of concerns. Most students in the course of their college experiences will encounter some problems with which they could benefit from the help of an experienced, understanding person. The Center's hours are 8 a.m. to 4:30 p.m., Monday through Friday. Appointments to see a counselor may be made by calling Ext. 1211, or by directly contacting the Center.

VETERANS SERVICE

Special assistance is available to veterans by the Registration office. This office provides veteran students with current information on veteran's affairs, coordinates special educational programs for veterans, provides a counseling service with a coordinated and extensive referral service, and maintains liaison with the Veterans Administration, Department of Veterans Affairs, and the County Veterans Service Officers.

PLACEMENT SERVICE

The University maintains a full-time Career Planning and Placement Service for all students and alumni. Staff members assist students in evaluating abilities and planning for the future. Placement of Stout graduates continues to be a major emphasis of the University. Three full-time Career Planning and Placement counselors are available. Career Days, campus recruitment, workshops and one-on-one counseling are just a few of the services. Statistical reports are available on the employment of past graduates.

ACADEMIC SKILLS CENTER

The Academic Skills Center offers students the opportunity to improve their spelling, reading, math and study skills. In addition, the Center coordinates a free tutoring program and offers supportive services for learning disabled students. Students may enroll in study skills groups that concentrate on lecture notetaking, time management, study formula development and improvement of concentration.

READING/STUDY SKILLS PROGRAM

The University's Reading and Study Skills Program helps students with skill development. It offers help in remedial as well as developmental reading, study skills and math skills.

MINORITY OFFICE

Special assistance is available for minority students through the Ethnic Services Center. The Center offers help in the areas of counseling, academic advisement and cultural programming, as well as maintaining a liaison with other offices within Student Services. The staff consists of three directors of American Indian, Black and Hispanic background.

INTERCOLLEGIATE ATHLETICS

The athletic program contributes to the total educational program of the University. It provides general educational values for the participants and constitutes a laboratory for those who want to coach. Stout is a member of the Wisconsin State University Athletic Conference, the Wisconsin Women's Intercollegiate Athletic Conference, the Midwest Association for Intercollegiate Athletics for Women, the National Association of Intercollegiate Athletics, and the Association for Intercollegiate Athletics for Women, and the National Collegiate Athletic Association-Division III.

The University sponsors six women's varsity teams and 11 men's varsity teams. Women's teams include basketball, gymnastics, swimming, tennis, track and volleyball. Men's teams are baseball, basketball, cross country, football, golf, gymnastics, hockey, swimming, tennis, track and wrestling. The "S" Club is a campus organization for men and women who have earned letters in intercollegiate sports.

STUDENT HANDBOOK

A Stout "Student Handbook" is issued annually to each student. The booklet contains helpful information related to academic housing and campus policies, campus programs, rules and regulations, activities, organizations and services. It contains many of the details not found in the University's catalog. It is updated annually.

PROGRAMS OF STUDY

The University allows students to graduate under the provisions of program requirements in effect at the time they began their program of study at Stout. The University, through its advisement system, provides annually updated program plan sheets for each major. Current program plan sheets reflect the competencies most desired in graduates. While students may choose to follow the program requirements listed in the catalog, students are encouraged to follow the program requirements as stated on the program plan sheets at the time of their initial conference with their faculty adviser. Students who begin a program with the intention of graduating from Stout must meet with a faculty adviser within three years of their initial enrollment at a post-secondary institution to determine the program requirements under which they will graduate.

SCHOOL OF INDUSTRY AND TECHNOLOGY

Dr. M. James Bensen, Dean

Programs:

- General Business Administration
- Industrial Education
- Industrial Technology
- Marketing and Distributive Education
- Technical Education
- Vocational Education (T & I)

GENERAL BUSINESS ADMINISTRATION

The Business Administration program is unique in that it blends business with technology, preparing students with capabilities to serve in a variety of industrial and commercial enterprises. The program includes a 12-credit technical component that allows specialized study in such areas as computers, space age materials, electronics, power mechanics and alternative energy systems. The program's required business courses cover the functional areas of marketing, manufacturing, finance, personnel, accounting and law. Also required are courses in policies, management information systems, organizational leadership and the legal and ethical aspects of management.

The program is practical oriented with both a required on-campus practicum and off-campus field experience. Graduates are placed in jobs including: marketing analyst, production control planner, personnel manager, sales agent, manufacturing supervisor, cost accountant, network planning assistant.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in general/liberal studies-----	55 credits
Required in major studies -----	51 credits
Technical component-----	12 credits
Business electives-----	6 credits
Free electives-----	6 credits
Cumulative grade average for all courses completed at Stout—2.5/4.0	

PROGRAM REQUIREMENTS

GENERAL/LIBERAL STUDIES—55 credits required

	Credit
Communications Cluster	
326-101, Freshman English or 326-111, Honors English -----	3
326-102, Read/Writing or 326-112, Honors English -----	3
326-320, Business Writing or 326-516, Technical Writing -----	3
391-100, Fundamentals of Speech -----	2
<i>Select two courses from the following: 391-200, Persuasive Speaking; 391-206, Discussion; 391-210, Interpersonal Communication; 391-508, Speech Skills - Business; or 479-570, Assertive Training.</i>	
<i>Select 9 credits from three areas or courses: 212-xxx, Family Relations; 303-xxx, Anthropology; 336-xxx, Geography; 375-xxx, Political Science; 387-xxx, Sociology; 479-xxx, Psychology; or 500-510, Introduction to Women Studies.</i>	
<i>Select 9 credits from three areas or courses: 300-250, Soviet Seminar Tour; 300-575, Ascent of Man; 304-xxx, Art History; 326-xxx, Literature; 32x-xxx, Foreign Language; 338-xxx, History; 365-xxx, Philosophy; 500-xxx, Futures; or 600-535, Film History.</i>	
<i>Select 5 credits from any of the following areas including at least one lab course: 308-xxx, Biology; 311-xxx, Chemistry; or 372-xxx, Physics.</i>	
<i>Select 3 credits from any of the following areas or courses: 304-xxx, Art; 360-xxx, Music; 391-xxx, Theater Art; 391-202, Oral Interpretation; 391-244, Radio Programming and Production; 391-554, TV Programming and Performance; or 600-504, Elementary Photo.</i>	
366-102, Personal Health or 366-340, First Aid and Safety -----	2
366-346, ARC Cardiopulmonary Resuscitation or 367-xxx, Physical Education (activity) -----	1

Quantitative Cluster

355-120, College Math I or any higher math course -----	4
354-142, Pascal-Cobol Programming for Business -----	4
320-325, Business Statistics or 354-530, Statistical Methods -----	3

MAJOR STUDIES—51 credits required

Foundation:

150-115, Understanding Business and Industry or -----	2
160-304, Business Management-----	2
160-100, Introduction to Business Administration -----	1
160-206, Accounting I -----	3
160-207, Accounting II -----	3
320-210, Economics I -----	3
320-215, Economics II -----	3

Functional:

150-200, Production Management-----	3
160-330, Principles of Marketing -----	3
479-582, Personnel Management -----	3
160-318, Business Law-----	3
160-335, Managerial Accounting -----	3
160-340, Business Finance -----	3

Comprehensive:

160-601, Legal Environment of Business-----	2
160-690, Administrative and Business Policies-----	3
320-550, Managerial Economics -----	3
160-310, Management Information Systems -----	2
150-600, Organizational Leadership -----	3
150-514, Production Systems or 160-xxx Business Practicum -----	3
160-398, Field Experience or 160-489 Internship -----	2

TECHNICAL COMPONENT

130-103, Communication Systems Technology -----	3
170-210, Materials of Industry-----	3
110-104, Fundamentals of Electronics -----	2
110-103, Power Mechanics-----	2
<i>Select 2 credits from: 110-505, Alternative Energy Systems or</i>	
170-301, Technology-Resources-Environment -----	2
195-532, Futures of Technology or 372-252 Lasers or 372-253 Energy Resources -----	1

ELECTIVES

No math courses lower than 355-120.

No more than 4 credits in music performance credits accepted in total program.

Business Electives—6 credits

Free Electives—6 credits

Cumulative grade average for all courses completed at Stout—2.5/4.0

INDUSTRIAL EDUCATION

The Industrial Education graduate is one of the most sought after individuals in education today. The primary objective of Industrial Education is to prepare teachers for junior and senior high schools. These teachers may find themselves teaching industrial arts which is a part of general education that offers an insight into the industrial nature of our society. They also frequently teach vocational, trade and industrial programs in the secondary schools by meeting certification requirements. Graduates are sought by business and industrial firms for positions as industrial trainers.

There are three tracks within the major that students may select in meeting personal objectives. They are American Industry, General Industry and Specialized Technology.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in general studies -----	51-52 credits
Required in major studies -----	42 credits
Required in professional education -----	29 credits
Electives -----	7-8 credits

PROGRAM REQUIREMENTS**GENERAL STUDIES**—51-52 credits required (all tracks)

Course	Credit
326-101 and 102, Freshman English-----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech-----	2
391-xxx, Advanced Speech elective-----	2
355-120 and 121, Introduction to College Mathematics I and II -----	8
479-110, General Psychology-----	3
320-201, General Economics -----	3
338-xxx, History elective -----	3
387-110, Introductory Sociology-----	3
375-210, Government -----	3
311-115, Introductory College Chemistry-----	5
372-221, Mechanics and Electricity-----	5
Science Elective -----	2-3
366-101, Health Survey -----	1
367-1xx, Physical Education elective-----	2

GENERAL INDUSTRY

The purpose in the General Industry concentration is to provide the students with a broad background in different technologies permitting them to teach multiple areas in high school programs or general shop programs in middle schools or junior high schools.

MAJOR STUDIES—42 credits required

170-101, Processes: Concepts-----	3
110-101, Energy in Industry -----	2
130-100, Communications-----	2
150-115, Understanding Business and Industry-----	2
110-103, Power Mechanics-----	2
110-204, Electricity-----	3
130-140, Graphic Arts -----	2
130-110, Drafting -----	2
150-514, Production Systems-----	3
170-205, Design for Industry -----	2
170-270, Light Building Construction -----	2
170-xxx, Processing elective-----	2-3

Technical electives -----	15-16
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PROFESSIONAL EDUCATION—29 credits required

190-160, Introduction to Industrial Education -----	2
190-205, Methods of Teaching Industrial Education -----	2
190-390, Laboratory and Classroom Management in Industrial Education -----	2
190-405, Curriculum Development-----	2
190-406, Instructional Evaluation -----	2
190-408, Student Teaching -----	8
413-501, Guidance-----	2
421-303, Educational Psychology-----	2
421-522, Secondary Education Seminar-----	2
421-682, Reading Methods - Secondary School -----	2
431-630, Mainstreaming Special Students-----	3

ELECTIVES—12-13 credits required

Select courses offered at Stout or those approved for transfer.

SPECIALIZED TECHNOLOGY

A number of options are open to a student who wishes to specialize: Auto Mechanics; Communications; Electricity/Electronics; Graphic Arts; Industrial Graphics; Metal Technology; Materials Processing; Power and Energy; and Wood and Plastics Technology.

MAJOR STUDIES—42 credits required

Required courses are the same as those in the General Industry track. Technical electives are to be selected to meet the student's professional goals.

PROFESSIONAL EDUCATION—29 credits required

The professional credits are the same as those required in the General Industry concentration.

ELECTIVES—7-8 credits required

Select courses offered at Stout or those approved for transfer.

AMERICAN INDUSTRY

American Industry is a new approach to industrial arts. It places emphasis on understanding industry through involvement in functions common to all industries such as production, management and marketing. The American Industry curriculum prepares a student to teach American Industry at the junior and senior high school levels.

MAJOR STUDIES—27-28 credits required

170-101, Process Concepts -----	3
110-101, Energy in Industry -----	2
130-100, Communications-----	2
150-115, Understanding Business and Industry-----	2
110-103, Power Mechanics-----	2
110-204, Electricity-----	3
130-140, Graphic Arts -----	2
130-110, Drafting -----	2
150-514, Production Systems-----	3
170-205, Design for Industry -----	2
170-270, Light Building Construction -----	2
170-xxx, Processing Elective-----	2-3

AMERICAN INDUSTRY CONCENTRATION—15-16 credits required

150-200, Production Management-----	2
150-410, Manufacturing Cost Analysis-----	2
160-330, Principles of Marketing-----	3
170-313, Wood Technology or 170-515, Metallurgy-----	3
150-x98, Field Experience-----	2
110-201, Transportation -----	2
600-560, A.V. Communications-----	2

PROFESSIONAL EDUCATION—29 credits required

The professional credits are the same as those required in the General Industry concentration.

VOCATIONAL CERTIFICATION

A student who wishes to become vocationally certifiable in Wisconsin must complete the course 469-502 Principles of Vocational, Technical and Adult Education and have a minimum of 2,000 hours of related work experience.

INDUSTRIAL TECHNOLOGY

Stout's Industrial Technology degree is a broadly based program designed to prepare individuals for a variety of responsible industrial positions. Graduates have gained recognition and success in many areas of industry. Typical assignments include production or construction supervision, quality assurance, packaging, process engineering, methods engineering, systems analysis, production control, cost estimating, purchasing, product design, sales and service, plant engineering, industrial relations, tools design, prototype development, and technical communications.

The program provides for learning experiences to develop competencies in each of four broad areas: knowledge of the characteristics of materials and manufacturing processes;

understanding of management principles and their application to industrial problems; awareness of the environmental and sociological implications and those psychological principles which are important in working with, communicating with, motivating, and supervising people; and skill in utilizing the mathematical and physical sciences to understand and solve technological and economic problems found in industry.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation -----	130 credits
Required in General/Related Studies-----	57-68 credits
Required in Professional/Technical Studies -----	62-63 credits
Electives -----	11-19 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—57-68 credits required

Course	Credit
326-101 and 102, Freshman English -----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech -----	2
391-xxx, Advanced Speech elective-----	2
367-1xx, Physical Education-----	1
366-101, Health Survey -----	1
479-110, General Psychology or -----	3
479-150, Man: A Course of Study-----	3
Select any two of the following Social Science courses: 387-110, Introductory Sociology; 375-xxx, Government; 303-220, Anthropology; or 388-xxx, History -----	6
320-201 or 210-210, Economics-----	3
355-120, 121 and 153, Mathematics and Calculus I or -----	12
355-156, Calculus and Analytic Geometry I -----	5
354-130, Elementary Statistics or -----	2
354-530, Statistical Methods -----	3
354-141, Digital Computer Programming -----	2
311-115, Introductory College Chemistry-----	5
372-221 and 372-223, Mechanics and Electricity, and Light and Sound--	8
Select two to three credits from Humanities and Fine Arts group-----	2-3
304-xxx, Art Elective; 326-xxx, Literature Elective; 360-xxx, Music Elective; 365-201, Introduction to Philosophy; 365-375, Professional Ethics; 365-500, Philosophy of Technology; or 391-xxx, Theater Course Elective.	
Select two to three credits from Environment group -----	2-3
308-122, Biology: An Environmental Approach; 311-553, Environmental Chemistry; 170-501, Technology-Resources-Environment; 308-150, Man and Environment; or Approved Elective.	
Select four to five credits from Personal Health/Development group-----	4-5
367-xxx, Physical Education or 366-101, Health Survey.	
Select additional four to five credits from: -----	4-5

229-202, Fundamentals of Nutrition; 212-250, Family Relations I; 479-571, Psychology of Marriage and Family; 479-570, Assertiveness Training; 367-xxx, Physical Education Activity; or Approved Elective.

PROFESSIONAL/TECHNICAL STUDIES—62-63 credits required

150-150, Industrial Organization -----	2
150-200, Production Management-----	3
160-400, Industrial Finance-----	4
150-500, Engineering Economy -----	3
150-600, Organizational Leadership -----	3
479-582, Personnel Management -----	3
320-420, Labor Economics or 320-421, Collective Bargaining-----	2-3
140-581, Principles of Occupational Safety-----	2
150-xxx, Industrial Marketing -----	2
<i>Technical Foundation Courses:</i>	
110-204, Electricity-----	3
130-110, Drafting -----	2
<i>Select three additional Technical Foundation courses:</i>	
110-103, Power Mechanics-----	2
110-260, Introduction to Fluid Power-----	2
130-140, Graphic Arts -----	2
170-202, Metals -----	2
170-250, Plastics I -----	2
170-270, Light Building Construction -----	2
170-280, Packaging Fundamentals -----	2
600-504, Elementary Photography -----	2

CONCENTRATION CORE—A minimum of 20 required credits in one of the following concentrations, plus 10 additional professional/technical selectives is required.

BUILDING CONSTRUCTION

170-270 Light Building Construction
130-221 Architectural Design I
130-325 Architectural Design II
130-526 Building Construction Specifications
150-570 Estimating and Analyzing Construction Costs
150-670 Systems Approach to Construction Management
170-370 Commercial Building
150-x98 Field Experience or
170-575 Building Construction Practicum
160-573 Legal Aspects of Construction
130-527 Topography
372-325 Strength of Materials

ELECTRONICS

110-343 Introduction to Solid-State Electronics
110-244 Electronic Circuits
110-543 Linear Circuits
110-556 Digital Circuits
110-548 Instrumentation and Control
110-640 Techniques for Network Analysis
372-518 Microprocessors and Applications
355-154 or 157 Calculus II
355-255 Differential Equations

GRAPHIC ARTS

130-140 Graphic Arts
130-246 Typography

- 130-251 Composition
- 130-355 Line and Halftone Photography
- 130-366 Image Transfer
- 130-370 General Binding
- 130-475 Printing Economics
- 130-543 Graphic Arts Production Techniques
- 130-557 Color Separation

MANUFACTURING ENGINEERING

- 150-540 Time and Motion Study
- 150-505 Production and Inventory Control
- 150-520 Quality Assurance
- 150-410 Manufacturing Cost Analysis
- 150-510 Production Processing
- 130-290 Mechanics of Solids I or
- 372-531 Statics
- 130-592 Mechanics of Machinery I or
- 372-533 Dynamics

MECHANICAL POWER TRANSMISSION

- 110-240 Electronics
- 110-348 Motors and Generators
- 110-303 Mechanical Power Transmission
- 110-548 Instrumentation and Control
- 110-xxx Problems in Power Transmission
- 160-330 Principles of Marketing
- 170-334 Salesmanship and Sales Management

PACKAGING

- 170-280 Packaging Fundamentals
- 170-315 Packaging Materials
- 170-380 Packaging Systems
- 170-480 Packaging Design and Evaluation
- 170-580 Packaging Development
- 170-585 Packaging Seminar
- 304-101 Fundamentals of Design
- 311-541 Chemistry of Materials or
- 372-325 Strength of Materials
- 170-385 Packaging Machinery

PLANT ENGINEERING

- 130-325 Architectural Design II
- 150-440 Plant Layout and Materials Handling
- 150-x97 Field Experience-Series
- 311-553 Environmental Chemistry
- 150-450 Maintenance Management
- 372-222 Heat and Thermodynamics
- 372-325 Strength of Materials

PRODUCT DEVELOPMENT

- 130-290 Mechanics of Solids I
- 130-291 Mechanics of Solids II
- 130-592 Mechanics of Machinery I
- 130-593 Mechanics of Machinery II
- 130-532 Mechanical Design
- 130-537 Mechanical Design Drafting
- 130-311 Technical Drafting

SECONDARY RESOURCE MANAGEMENT

- 170-301 Technology-Resources-Environment
- 170-312 Materials
- 170-401 Solid Waste Technology
- 170-403 Secondary Resource Systems Management
- 170-503 Resource Recovery Practicum
- 150-410 Manufacturing Cost Analysis
- 311-541 Chemistry of Materials

TECHNICAL COMMUNICATIONS

- 391-208 Theory of Communications
- 600-560 Audio-Visual Communications
- 600-561 Preparation of AV Materials
- 130-414 Technical Illustration
- 326-425 Copy Editing and Preparation
- 130-341 Graphic Arts Processes
- 600-630 Audio/Film/TV Production
- 600-593 TV Production Techniques or
- 391-554 TV Programming and Performance

**TECHNICAL SALES
AND SERVICE**

150-520 Quality Assurance
150-410 Manufacturing Cost Analysis
160-318 Business Law

160-330 Principles of Marketing
160-334 Salesmanship and Sales
Management
160-370 Principles of Advertising
320-215 Principles of Economics II

GENERAL OR SPECIAL

Students who have identified professional objectives which cannot be met within the established concentration may develop in consultation with the program director, a special program to meet personal interests and needs. The student who cannot or does not wish to select a specific concentration will be placed in a structured, general program.

FIELD EXPERIENCE

Work experience related to the individual's professional goals should be obtained through participation in the Field Experience program. A year-round cooperative education program is also available for selected students. Both programs carry academic credit.

ELECTIVES—11-19 credits required

Candidates for the degree should select their electives to complement objectives of their concentration.

MARKETING AND DISTRIBUTIVE EDUCATION

The field of distribution requires training for owners, managers, and employees engaged primarily in marketing or merchandising goods and services. Distributive Teacher Education at Stout provides the teachers to train the work force.

Marketing and Distributive Education is one area of the fields of vocational education supported by local, state and federal funds. Teachers graduating with this major are prepared to teach marketing at the post-secondary level and distributive education subjects at the secondary level (high school).

Marketing and Distributive Education students have three options from which to choose in order to fulfill their major requirements—General Marketing, Fashion Merchandising, and Hotel and Restaurant Management.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation -----	132 credits
Required in liberal studies-----	53 credits
Required in major studies -----	34-36 credits
Required in professional education -----	42 credits
Electives -----	1-3 credits

2. Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified for teaching vocational marketing and distributive education in Wisconsin.
3. Students must fulfill the English adequacy and speech proficiency requirements.
4. Specific course requirements and additional information about minors and/or concentrations can be obtained from the Program Director.
5. Students must have a 2.3 or higher cumulative grade point average to enter the teacher education program.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—53 credits required

Course	Credit
English (326-101 and 102, or 326-111 and 112)-----	6
Speech (391-100)-----	2
General Psychology (479-110)-----	3
Physical Education (367-xxx)-----	2
Health Survey (366-101) -----	1
Social Science (320-210 and 215, 375-210 and 387-110) -----	12
Mathematics (355-119) -----	4
Science (must include one lab course) -----	8
Humanities -----	9
Fine Arts-----	3
Electives -----	3

MAJOR STUDIES—34-36 credits required

Option No. 1—General Marketing/Retailing

160-206, Principles of Accounting-----	3
160-207, Principles of Accounting-----	3
150-304, Principles of Business Management -----	3
160-318, Business Law-----	3
160-323, Retail Merchandising and Management-----	3
160-330, Principles of Marketing -----	3
160-334, Salesmanship and Sales Management -----	3
160-370, Principles of Advertising-----	3
150-600, Organizational Leadership -----	3
479-582, Personnel Management -----	3
<i>Select from 4 to 6 credits:</i>	
160-355, Principles of Insurance -----	2
160-365, Principles of Real Estate-----	2
160-679, Marketing Research -----	3
160-690, Administrative and Business Policies-----	3
320-325, Economic and Business Statistics -----	3
479-579, Public Relations -----	2

196-555, Marketing and Distributive Education Seminar -----	3
	Total 34-36

Option No. 2—Fashion Merchandising

160-206, Principles of Accounting-----	3
160-207, Principles of Accounting-----	3
150-304, Principles of Business Management -----	3
160-323, Retail Merchandising and Management-----	3
160-330, Principles of Marketing-----	3
160-334, Salesmanship and Sales Management -----	3
160-370, Principles of Advertising-----	3
214-120, Introduction to Apparel, Textiles and Merchandising -----	2
214-225, Clothing and Textile Industry -----	3
214-325, Fashion Merchandising I -----	3
214-525, Mens' and Boys' Merchandising -----	1
<i>Select from 4 to 6 credits:</i>	
214-298, Field Experience-----	2
214-319, Economics of Clothing -----	3
214-329, Fashion Merchandise Promotion -----	3
214-430, Merchandise Planning and Control-----	2
214-625, Mass Merchandising -----	3
	Total 34-36

Option No. 3—Hotel and Restaurant Management

160-206, Principles of Accounting-----	3
160-207, Principles of Accounting-----	3
150-304, Principles of Business Management -----	3
160-323, Retail Merchandising and Management-----	3
160-330, Principles of Marketing-----	3
160-334, Salesmanship and Sales Management -----	3
160-370, Principles of Advertising-----	3
245-140, Introduction to Hospitality and Service Industry Management--	3
245-240, Introduction to Tourism and the Travel Industry-----	2
245-205, Hospitality Organization Management-----	3
308-206, Food Service and Environmental Sanitation-----	1
<i>Select from 4 to 6 credits:</i>	
229-124, Foods -----	4
246-202, Front Office Management -----	3
245-344, Hospitality Marketing and Sales-----	3
	Total 34-36

PROFESSIONAL EDUCATION REQUIREMENTS—42 credits

Marketing and Distributive Education—24 credits

196-201, Introduction to Teaching Marketing and Distributive Education	3
196-202, Organization and Administration of DECA -----	3
196-301, Methods in Distributive Education -----	4
196-401, Curriculum Development in Distributive Education -----	3
196-501, D.E. Project - Model Store Simulation -----	3
196-408, Student Teaching - Distributive Education -----	8

Educational, Vocational Education, General Psychology—18 credits	
479-100, General Psychology -----	3
421-205, Human Relations for the Helping Professions-----	2
421-303, Educational Psychology-----	2
421-682, Reading Methods - Secondary Schools -----	2
431-630, Mainstreaming Special Students-----	3
199-502, Principles of Vocational Education -----	2
199-560, Cooperative Occupational Educational Programs -----	2
600-560, Audio-Visual Communications -----	2
	Total 42

GENERAL ELECTIVE - From 1 to 3 credits

TECHNICAL EDUCATION

The Technical Education degree program is designed for persons interested in teaching at the technical institute or junior college level.

The growth of the technical programs in post high school institutions has created a need for teachers who have depth of training and experience in a particular technology. The starting salary for post high school teachers is usually higher than for other teaching positions.

The degree requires a serious interest in a technology as well as a strong capability in mathematics and physical science. The students must also be available during summer periods so that the minimum related work experience requirement of 2,000 hours can be met.

Some technical teaching positions require that the teacher serve, on a part-time basis, in one of the academic areas related to the technology. To teach mathematics or science at a technical institute in Wisconsin on less than half time load, the teacher must have a minimum of 20 credits in the discipline. It is recommended that the prospective technical teacher prepare to teach in mathematics or science.

Program plans are available for two technologies, electronics and mechanical design. These programs are described in detail below. Because there are so many recognized technologies and the need for teachers in certain technologies is limited, formal program plans for special technologies are custom made for the student. The program director for the Technical Education major must be contacted in advance of the school term so a valid degree program in a specific technology can be arranged.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 130 credits
 Required in liberal studies ----- 57-59 credits
 Required in major studies ----- 42-49 credits
 Required in professional education ----- 22 credits
 Electives ----- 2-8 credits
2. Completion of adequate related industrial experience.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—57-64 credits required

Course	Credit
326-101 and 102, Freshman English -----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech -----	2
391-xxx, Advanced Speech elective (electronics only) -----	2
355-120 and 121, Mathematics -----	8
355-153 and 154, Calculus (mechanical design 153 only) or -----	8
355-156 and 157, Calculus and Analytic Geometry -----	10
479-110, General Psychology-----	3
338-xxx, History elective -----	3
320-201, General Economics -----	3
375-210, Government -----	3
367-1xx, Physical Education-----	2
366-101, Health Survey or -----	1
366-340, ARC Standard First Aid and Personal Safety -----	
311-115, Introductory College Chemistry-----	5
372-221, Mechanics and Electricity-----	5
372-222, Heat and Thermodynamics (mechanical design only) -----	3
372-223, Light and Sound (electronics only) -----	3
326-xxx, Literature elective (electronics only)-----	3

MAJOR STUDIES—41-49 credits required in either Electronics Concentration or Mechanical Design Concentration.

Electronics Concentration—41 credits

110-204, Electricity-----	3
110-343, Intro. to Solid State Electronics-----	3
110-348, Motors and Generators -----	2
110-543, Linear Circuits-----	3
110-556, Digital Circuits -----	3
110-548, Instrumentation and Control-----	3
110-640, Techniques of Network Analysis-----	3
372-518, Microprocessors and Applications -----	3
110-552, Electronic Communication -----	3
372-252, Laser and Light Waves -----	1
130-110, Drafting -----	2
170-202, Metals -----	2
110-103, Power Mechanics-----	2
150-150, Industrial Organizations-----	2
354-141, Digital Computer Programs-----	2
Electives (Technical) -----	4

Mechanical Design Concentration

130-110, Drafting -----	2
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130-311, Technical Drafting-----	3
130-212, Descriptive Geometry -----	3
130-290, Mechanics of Solids I -----	3
130-291, Mechanics of Solids II -----	3
130-592, Mechanics of Machinery I -----	3
130-593, Mechanics of Machinery II -----	3
130-532, Mechanical Design-----	4
130-433, Tool and Die Design-----	2
130-537, Mechanical Design Drafting-----	2
110-204, Electricity-----	3
354-141, Digital Computer Programming -----	2
150-150, Industrial Organization -----	2
170-515, Metallurgy-----	3
170-101, Processes: Concepts-----	3
170-230, Machine Shop -----	2
Electives -----	6

PROFESSIONAL EDUCATION—24 Credits required

190-205, Methods of Teaching Industrial Education -----	2
190-405, Curriculum Development -----	2
190-406, Instructional Evaluation in Industrial Education -----	2
190-408, Student Teaching -----	8
199-502, Principles of Vocational, Technical and Adult Education-----	2
199-534, Task Analysis -----	2
413-501, Introduction to Guidance-----	2
421-205, Human Relations-----	2
421-303, Educational Psychology -----	2

ELECTIVES—2-8 credits required

To be selected in consultation with advisor.

VOCATIONAL EDUCATION (Trade and Industry)

The undergraduate vocational teacher education program in trades and industries is especially designed to prepare a person to teach a trade type occupation to a broad segment of this country's work force. Future auto mechanics, welders, machinists, electricians and others require well prepared teachers to teach the necessary skills and knowledge.

Job opportunities for vocational trade and industrial teachers have been on a constant increase. These opportunities are found in vocational schools, community colleges, private vocational schools and in the training departments of industrial plants.

An individual who has completed an apprenticeship or vocational training program in a trade and has worked as a tradesman makes an ideal candidate for this program.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 130 credits
- Required in liberal studies----- 52 credits
- Required in major studies ----- 42 credits
- Required in professional education ----- 24 credits
- Electives ----- 16 credits
2. A student must obtain a minimum of 2,000 hours of appropriate work experience for provisional certification to teach vocational, trade and industrial courses. This requirement must also be met before a degree can be granted. (For more details, see program director.)
3. Students must make applications for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.25 and meet the speech, English and health requirements as described in the Professional Education section of course descriptions.

PROGRAM REQUIREMENTS**LIBERAL STUDIES**—53-55 credits required

Course	Credit
326-101 and 102, Freshman English -----	6
326-xxx, Advanced Writing elective-----	3
391-100, Fundamentals of Speech -----	2
391-xxx, Advanced Speech elective-----	2
354-141, Digital Computer Programming -----	2
355-120 and 121, Introduction to College Math I and II -----	8
479-110, General Psychology -----	3
320-201, Economics -----	3
338-xxx, History elective -----	3
387-110, Sociology-----	3
375-210, Government -----	3
311-115, Introductory College Chemistry-----	5
372-221, Mechanics and Electricity -----	5
Science elective -----	3
366-101, Health Survey or -----	1
366-340, ARC Standard First Aid and Personal Safety -----	2
367-1xx, Physical Education-----	2

MAJOR STUDIES—42 credits required

Because each student brings different qualifications as a result of prior training and experience, the student with the assistance of the program director will define all 42 technical credits in terms of student and job competency needs.

PROFESSIONAL EDUCATION—24 credits required

190-205, Methods of Teaching Industrial Education -----	2
190-405, Curriculum Development -----	2

190-406, Instructional Evaluation in Industrial Education -----	2
190-408, Student Teaching -----	8
199-502, Principles of Vocational, Technical and Adult Education-----	2
199-534, Task Analysis -----	2
413-501, Introduction to Guidance -----	2
421-205, Human Relations-----	2
421-303, Educational Psychology-----	2

ELECTIVES—9-11 credits required

SCHOOL OF HOME ECONOMICS

Dr. J. Anthony Samenfink, Dean

Programs:

- Child Development and Family Life
- Clothing, Textiles and Design
- Dietetics
- Early Childhood Education
- Fashion Merchandising
- Food Service Administration
- Home Economics in Business
- Home Economics Education
- Home Economics General
- Hotel and Restaurant Management

CHILD DEVELOPMENT AND FAMILY LIFE

The Child Development and Family Life program is the study of human development and family life in which child, family and community are viewed as interrelated. A multi-disciplinary approach provides perspective and specialized knowledge to deepen the understanding of people and to develop creative approaches to serving them. Graduates of the program are prepared for advanced study that will lead to positions in family life education, university teaching and research, child care services, and related areas.

The program integrates academic study with significant experiential learning with children, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. They work in Stout's Child and Family Study Center, Day Care, and/or Infant-Toddler Laboratory Schools, hospitals, human service agencies, community groups, adolescent group homes, homes for older people, and University Extension programs provide opportunities

for the synthesis of practical and theoretical knowledge in child development and family life.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation -----	112.5-156 credits
Required in general studies -----	47.5-70 credits
Required in major studies:	
Child Development Concentration-----	67-86 credits
Family Life Concentration -----	65-85 credits

PROGRAM REQUIREMENTS

GENERAL STUDIES—47.5-70 credits required

Course	Credit
391-100, Fundamentals of Speech* -----	2
326-101 and 102, English* -----	6
355-118, Concepts of Mathematics* -----	4
Select 2-5 credits from the following:	
365-301, Introduction to Logical Thinking and Scientific Methodology ---	3
300-255, Creative Problem Solving-----	2
Select 6-12 credits from the following:	
308-342, Community Hygiene* -----	2
308-122, General Biology -----	3
308-132, Physiology and Anatomy -----	4
308-150, Man and Environment -----	2
308-332, Genetics -----	2
308-350, Ecology-----	3
308-520, Comparative Ethnology I -----	2
366-102, Personal Health -----	2
Select 6-9 credits from the following:	
479-110, General Psychology* -----	3
387-110, Introduction Sociology*-----	3
365-201, Introduction to Philosophy -----	3
Select 6-9 credits from the following:	
320-201, General Economics*-----	3
Choose remaining 3-6 credits from U.S. History or Government courses	3-6
Select 12-15 credits from at least three of the following areas: art, literature, music, theatre, photography, industrial crafts, structural design, and weaving-----	12-15
Select .5-.2 credits in Physical Education-----	.5-.2
Required courses with a minimum grade of "C" or better, including transfer credits.*	

MAJOR STUDIES (Child Development Concentration) 67-86 credits required

212-101, Introduction to Child Development and Family Life*-----	1
212-535, Seminar in Self Growth* -----	2
212-250, Family Relationships I*-----	3

212-665, Administration of Early Childhood Education Programs*	2
387-530, Sociology of the Community*	3
387-420, Child and Family Agencies*	2
387-205, Introduction to Social Work*	3
413-501, Introduction to Guidance*	2
413-675, Counseling Theory*	2
<i>Select 15-22 credits from the following:</i>	
212-124, Child Development I*	3
212-264, Child Guidance*	2
212-524, Child Development II*	3
212-624, Advanced Child Study	3
212-637, Seminar in Child Development	2
212-685, Seminar Culturally Distinct Child and Family	3
479-251, Child Psychology	3
479-552, Adolescent Psychology	3
<i>Select 9-11 credits from the following:</i>	
212-650, Introduction to Marriage and Family Therapy*	3
212-607, Parent Counseling*	2
212-693, Child Development Family Life Practicum or Field Experience/ Independent Study*	3-4
212-235, Child Development Laboratory	1
212-265, Child Guidance Practicum	1
212-541, Home Intervention Programs in Early Childhood Programs	1
<i>Select 6-12 credits from the following:</i>	
391-206, Discussion*	2
212-407, Parent Education/Involvement*	2
242-651, Family Life Education Programs*	2
391-208, Theory of Communication	3
242-201, Teaching Techniques	2
391-204, Techniques of Group Leadership	2

To complete the program, the student must select, with the approval of the Program Director, 20-24 credits from at least two specializations, designed to increase the student's competencies. The student must earn a minimum G.P.A. of 2.50 within each of the concentrations.

*Required courses.

MAJOR STUDIES (Family Life Concentration)—65-85 credits required

212-101, Introduction to Child Development and Family Life*	1
212-535, Seminar on Self Growth*	2
212-124, Child Development I*	3
387-205, Introduction to Social Work*	3
387-530, Sociology of the Community*	3
387-420, Child and Family Agencies*	2
413-501, Introduction to Guidance*	2
413-675, Counseling Theory*	2
212-650, Introduction to Marriage and Family Therapy*	3
212-651, Marriage and Family Therapy Seminar	3

212-693, Child Development Family Life Practicum or Field Experience/ Independent Study*	3-4
<i>Select 15-24 credits from the following:</i>	
212-250, Family Relations I*	3
387-215, Sociology of the Family*	3
212-553, Dual Career Families	1
212-251, Early Years of Marriage	1
212-350, Family Relations II	3
212-351, Death and the Family	1
212-352, Parenthood	1
212-660, Current Sex Research	1
212-451, Divorce	1
212-580, Future of the Family	1
212-581, Dynamics of Marital Interaction	2
212-626, Special Topics in Study of Family Life	3
212-685, Seminar on the Culturally Distinct Child and Family	3
<i>Select 6-12 credits from the following:</i>	
391-206, Discussion*	2
212-407, Parent Education/Involvement*	2
242-651, Family Life Education Programs*	2
391-208, Theory of Communication	3
242-201, Teaching Techniques	2
391-204, Techniques of Group Leadership	2

To complete the program, students must select, with the approval of the Program Director, 20-24 credits from at least two specializations, designed to increase the student's competencies. The student must earn a minimum G.P.A. of 2.50 within the concentration.

*Required courses.

CLOTHING, TEXTILES AND DESIGN

The Clothing, Textiles and Design program is organized into four concentrations related to selected areas of the clothing and textile industries and integrates specific vocational education with liberal education. Students select one major concentration and an appropriate minor or 22-credit emphasis area.

Career opportunities for a graduate in the Clothing, Textiles and Design program are directly related to the areas of concentration. The Apparel Manufacturing Concentration prepares graduates for positions related to apparel manufacturing and operations. The Apparel Design Concentration prepares graduates for careers in designing apparel, fashion illustration, fashion coordination, promotion or public relations. The Textile Design Concentration provides opportunities to develop creative expression in applied textile design or in fabric design. The Textile Technology Concentration provides opportunities to develop creative expression in applied textile design or in fabric design. The Textile Technology Concentration prepares graduates for careers in quality control, product evaluation, mill production or manufacturing supervision. Graduates are prepared for advanced study that would lead to careers in textiles, chemistry, research and engineering.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
General studies -----	48 credits
Professional studies -----	50 credits
Minor or emphasis -----	22 credits
Free electives-----	10 credits

PROGRAM REQUIREMENTS**GENERAL STUDIES**—48 credits required

Course	Credit
304-101, Fundamentals of Design -----	3
320-210, Principles of Economics I-----	3
326-101 or 326-111, English-----	3
326-102 or 326-112, English-----	3
366-xxx or 367-xxx, Physical Education -----	2
339-100, Fundamentals of Speech -----	2

Select 3.5 credits from the following areas: 308-xxx Biology (for Apparel Concentration); 311-115 or 311-135 Chemistry (for Textile Concentration); 372-xxx Physics.

Select 4 credits from the following areas: 354-xxx Applied Math or 355-xxx Math.

Select 3 credits from the following areas: 212-250 Family Relationships I, 303-220 Introduction to Cultural Anthropology or 387-110 Introductory Sociology.

Select 3 credits from the following areas: 479-110 General Psychology or 479-150 Man: A Course of Study.

Select 6 credits from at least two of the following areas: 304-xxx Art-non-performance, 326-xxx Literature, 338-xxx History, 360-xxx Music-non-performance, 365-xxx Philosophy, 375-xxx Political Science, 500-xxx Interdisciplinary Studies.

Select 6 credits from at least two of the following areas: 304-xxx Art-performance, 326-xxx Writing, 328-xxx or 329-xxx Foreign Language, 360-xxx Music-performance, 391-xxx Speech.

Select liberal arts elective credits not included in concentration to total a minimum of 48 credits.

MAJOR STUDIES—50 credits required from concentration selected

Concentration in:

APPAREL DESIGN

214-120 Introduction to Apparel, Textiles and Merchandising	214-368 Experimental Clothing
214-110 Principles of Apparel Design	214-550 Textile Evaluation
214-140 Textiles	214-580 Flat Pattern
214-225 Clothing and Textile Industry	214-398 Field Experience
214-266 Apparel Construction	214-375 Pattern Grading
214-419 Textile and Clothing Economics	214-610 History of Costume-Ancient to European or
214-366 Pattern Adjustment and Fit	214-611 History of American Costume
304-534 Fashion Illustration	214-680 Draping

- | | |
|--|---|
| 214-617 Social-Psychological Aspects
Clothing | 214-639 National Study Tour to Fashion
Industry |
| 214-6xx Theory of Functional Clothing | 214-655 Recent Developments in Cloth-
ing and Textiles |
| 214-6xx Apparel Design Studio | 214-666 Custom Tailoring |
| 214-402 Undergraduate Clothing and
Textile Research | 214-670 Theatrical Costume |
| 214-372 Apparel Manufacturing | 214-695 Historic and Contemporary
Fabrics |
| 214-568 Engineered Tailoring | |
| 214-605 Foreign Study Tour | |

APPAREL MANUFACTURING

- | | |
|--|--|
| 214-120 Introduction to Apparel, Tex-
tiles and Merchandising | 214-366 Pattern Adjustment and Fit |
| 214-140 Textiles | 214-605 Foreign Study Tour |
| 214-225 Clothing and Textile Industry | 214-656 U.S. Textile Study Tour |
| 214-272 Industrial Sewing | 214-650 Textile Science |
| 214-419 Textile and Clothing Economics | 214-666 Custom Tailoring |
| 214-372 Apparel Manufacturing | 214-680 Draping |
| 150-304 Principles of Business
Management | 150-200 Production Management |
| 354-530 Statistical Methods | 150-600 Organizational Leadership |
| 214-550 Textile Evaluation | 479-582 Personnel Management |
| 214-568 Engineered Tailoring | 479-579 Public Relations |
| 214-398 Field Experience | 150-440 Plant Layout and Materials
Handling |
| 214-580 Flat Pattern | 150-505 Production and Inventory
Control |
| 214-375 Pattern Grading | 150-520 Quality Assurance |
| 150-514 Production Systems | 150-540 Time and Motion Study |
| 214-266 Apparel Construction | |
| 214-402 Undergraduate Clothing and
Textile Research | |

TEXTILE DESIGN

- | | |
|--|--|
| 214-120 Introduction to Apparel, Tex-
tiles and Merchandising | 214-611 History of American Costume |
| 214-109 Applied Design for Family
Living | 214-617 Social, Psychological Aspects of
Clothing |
| 214-110 Principles of Apparel Design | 214-6xx Textile Design Studio |
| 214-140 Textiles | 214-690 Advanced Textile Design:
Stitchery |
| 214-225 Clothing and Textile Industry | 214-691 Advanced Textile Design: Non-
Loom |
| 214-419 Textile and Clothing Economics | 214-692 Advanced Textile Design:
Hooking |
| 214-695 Historic and Contemporary
Fabrics | 214-694 Advanced Weaving Studio |
| 214-590 Practicum in Textile Design | 214-591 Natural Dyeing and Spinning |
| 214-592 Practicum in Textile Printing | 214-266 Apparel Construction |
| 214-693 Structural Design and Weaving | 214-368 Experimental Clothing |
| 214-398 Field Experience | 214-402 Undergraduate Clothing and
Textile Research |
| 214-610 History of Costume-Ancient to
European or | |

214-545 Commercial Household Textiles	214-650 Textile Science
214-550 Textile Evaluation	130-140 Graphic Arts
214-366 Pattern Adjustment and Fit	304-100 Drawing
214-580 Flat Pattern	304-305 Presentation Techniques
214-605 Foreign Study Tour	304-310 Graphic Design I
214-639 National Study Tour to Fashion Industry	304-500 Drawing
214-645 U.S. Textile Study	304-517 Printmaking
	600-504 Photography

TEXTILE TECHNOLOGY

214-120 Introduction to Apparel, Textile and Merchandising	214-645 U.S. Textile Study Tour
214-140 Textiles	214-694 Advanced Weaving
214-225 Clothing and Textile Industry	214-695 Historic and Contemporary Fabrics
214-419 Textile and Clothing Economics	245-658 Experimental Laundry Procedures
214-541 Fabric Maintenance	214-655 Recent Developments in Clothing and Textiles
354-530 Statistical Methods	311-201 Organic Chemistry Lecture
214-550 Textile Evaluation	311-203 Organic Chemistry Lab
214-398 Field Experience	311-501 Physical Chemistry Lecture
214-545 Commercial and Household Textiles	311-503 Physical Chemistry Lab
214-650 Textile Science	311-531 Quantitative Analysis
214-693 Structural Design and Weaving	311-535 Instrumental Methods of Analysis
311-521 Textile Chemistry	326-347 Critical Writing
214-6xx Issues in Textile Research	326-515 Technical Writing for Home Economics
214-402 Undergraduate Clothing and Textile Research	326-525 Writing Technical Articles
214-591 Natural Dyeing and Hand Spinning	326-546 Research Reporting
214-605 Foreign Study Tour	

DIETETICS

This program will provide the academic background for a career as a clinical dietitian, administrative dietitian or nutrition educator. This program meets academic requirements for membership in the American Dietetic Association (ADA). In a 1976 listing of occupations where shortages exist, the field of dietetics ranked fourth.

The dietetic student receives an education with equal emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this balance, the student can move toward the more technical or the more general areas of Dietetics.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 132 credits

Required in liberal studies-----	51 credits
Required in major studies -----	66 credits
Concentrations-----	15 credits

2. The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.
3. Work experience must be obtained through participation in the Field Experience program.
4. Students must attain a grade of "C" or better in each of the courses within the Liberal Studies and Major Studies. Students must also maintain a 2.5 grade point average with Major Studies. Students will have until the second semester of their junior year to attain the 2.5 average. All transferred credits will meet this program requirement.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—51 credits required

Course	Credit
391-100, Fundamentals of Speech and Speech for Proficiency Exam*-----	2
391-206, Discussion-----	2
391-208, Theory of Communication-----	3
391-204, Techniques of Group Leadership-----	2
391-512, Speech Skills for Educators -----	2
329-103, Elementary Spanish -----	4
329-104, Elementary Spanish -----	4
413-444, Introduction to Group Process-----	2
326-101, Freshman English: Composition* -----	3
326-102, Freshman English: Reading and Related Writing* -----	3
326-546, Research Reporting, or* -----	2
326-515, Technical Writing for Home Economics -----	3
355-123, Finite Mathematics with Applications, or* -----	4
xxx-xxx, Three years of high school academic mathematics-----	0
421-303, Educational Psychology* -----	2
242-201, Teaching Techniques in Home Economics* -----	2
242-240, Clinical Experience in Micro-Teaching-----	1
242-341, Clinical Experience in Schools-----	1
242-241, Clinical Experience in the Community -----	1
600-560, Audio-Visual Communications*-----	2
229-606, Nutrition Education*-----	3
354-140, Concepts of Computer, or*-----	2
354-141, Digital Computer Programming -----	2
212-xxx, Any Human Development and Family Living Course	
387-110, Introductory Sociology* -----	3
214-617, Social-Psychological Aspects of Clothing -----	3
303-220, Introduction to Cultural Anthropology*-----	3
479-110, General Psychology* -----	3
338-xxx, Any History Course-----	3

320-210, Principles of Economics I*	3
375-210, Government, or*	3
375-220, State and Local Government*	3
375-310, Political Parties and Pressure Groups	3
375-320, Civil Liberties in the U.S.	3
375-260, Problems of American Foreign Policy	3
375-340, International Relations	3
311-125, Principles of Chemistry for Health Sciences,* or	5
311-135, College Chemistry I	5
311-201, Organic Chemistry Lecture*	3
311-203, Organic Chemistry Lab*	1
308-306, General Microbiology*	4
308-132, Physiology and Anatomy*	4
308-362, Advanced Psychology*	3
367-121, Exercise and Fitness*	.5
367-xxx, Any Physical Education class*	.5
311-511, Biochemistry*	4

Select 9 credits from three different areas of the following:

304-xxx, Any Art course
326-xxx, Any Literature course
360-xxx, Any Music course, except 360-090, Stage Band
365-xxx, Any Philosophy course, except 365-301, Logic
391-232, Introduction to Theater or 391-334, Contemporary Theater
600-535, Film: History and Appreciation

MAJOR STUDIES—65 credits required

229-212, Nutrition*	3
229-240, Food Science*	4
229-410, Advanced Nutrition*	3
229-308, Meal Management*	3
229-618, Diet Therapy*	3
245-501, Food Service Administration*	3
245-311, Quantity Food Production*	3
245-222, Institutional Food Purchasing*	2
245-521, Food Service Equipment*	2
366-340, First Aid and Safety*	2
150-304, Principles of Business Management*	3
479-582, Personnel Management*	3
229-101, Dietetics as a Profession*	1
229-x98, Field Experience, or*	1
245-x98, Field Experience	1
354-130, Elementary Statistics, or*	2
354-530, Statistical Methods	3
229-638, Experimental Food*	3
229-661, Social and Cultural Aspects of Food*	2

Select at least one concentration 15 credits from the following:

CLINICAL NUTRITION

- 229-505 Nutrition of the Aged
229-630 Food Behavior
229-633 Maternal and Child Nutrition
229-680 Community Nutrition
311-515 Food Chemistry

- 311-612 Advanced Biochemistry (for graduate school-bound students)
479-540 Psychology of Individual and Group Differences

COMMERCIAL DIETETICS

- 229-608 Advanced Meal Management Practicum
229-620 Food Styling
229-630 Food Behavior
229-642 Advanced Foods

- 245-685 Demonstration Techniques
326-525 Advanced Technical Writing
600-504 Elementary Photography
600-593 Television Production Techniques

COMMUNITY NUTRITION

- 229-xxx Community Nutrition Programs
229-xxx Community Nutrition Practicum
229-505 Nutrition for the Aged
229-633 Maternal and Child Nutrition
229-680 Community Nutrition

- 375-220 State and Local Government (if not taken under 2.4.1)
375-310 Political Parties and Pressure Groups

CONSULTANT DIETETICS

- 106-206 Principles of Accounting
130-180 Hospitality, Living and Institutional Facility Planning
150-450 Maintenance Management
229-620 Food Styling
242-240 Micro-Teaching
242-241 Clinical Experience in the Community (Hospital or Nursing Home)

- 245-312 Restaurant Operations Management
245-371 Food, Beverage and Labor Cost Control
413-444 Introduction to Group Process
229-505 Nutrition of the Aged
229-630 Food Behavior
229-680 Community Nutrition
245-621 Food Service Layout Analysis

FOOD SERVICE ADMINISTRATION

- 160-206 Principles of Accounting
229-260 Menu Planning and Design
229-608 Advanced Meal Management Practicum
229-620 Food Styling

- 229-642 Advanced Foods
245-312 Restaurant Operations
245-371 Food, Beverage and Labor Cost Control
245-621 Food Service Layout Analysis

GERIATRIC NUTRITION

- 212-351 Death and the Family
212-530 Adulthood and the Family

- 212-680 The Aging Person
229-505 Nutrition for the Aged

229-608 Advanced Meal Management Practicum	229-642 Advanced Foods
229-512 Clinical Experience in Elderly Nutrition Programs	229-680 Community Nutrition
229-630 Food Behavior	242-241 Clinical Experiences in the Community (Nursing Home)

NUTRITION AND FOODS COMMUNICATION (RADIO, TV)

229-620 Food Styling	600-561 Preparation of AV Materials
229-680 Community Nutrition	229-642 Advanced Foods
242-240 Micro-Teaching or	391-600 Organizational Communication
245-685 Demonstration Techniques	600-593 TV Production Techniques or
391-244 Radio Program Production or	600-636 Fundamentals of Motion Picture Production
391-554 TV Programming and Performance	

NUTRITION EDUCATION

229-505 Nutrition for the Aged	242-620 Vocational Programs
229-630 Food Behavior	242-630 Concepts of Extension Education
229-633 Maternal and Child Nutrition	245-685 Demonstration Techniques
229-680 Community Nutrition	For vocational certification:
242-301 Home Economics Curriculum*	413-501 Introduction to Guidance
242-240 Clinical Experience in Micro-Teaching*	469-602 Principles of Vocational, Technical and Adult Education
242-341 Clinical Experience in the High School*	
212-407 Parent Education	
242-350 Laboratory Techniques for Teaching and Learning in Home Economics	

*Required for double major in Home Economics Education.

NUTRITION FACILITY PLANNING

110-530 Human Factors Engineering	130-526 Building Construction Specifications
130-xxx Advanced Hospitality Living and Institutional Facility Planning	170-570 Mechanical Systems
130-180 Hospitality Living and Institutional Facility Planning	245-436 Lighting for Residential Interiors
130-325 Architectural Design II (prerequisite waived)	245-621 Food Service Layout Analysis

PREGNATAL, INFANT AND CHILD NUTRITION

212-124 Child Development I	229-405 Food Service Practicum CDC
212-264 Child Guidance	229-630 Food Behavior
212-407 Parent Education	229-633 Maternal and Child Nutrition
212-524 Child Development II	229-680 Community Nutrition

SECONDARY DIETARY EDUCATION

212-xxx Mini courses in Family Life	242-444 Practicum in Teaching
212-124 Child Development I	242-443 Clinical Seminar in Home Economics Education
212-250 Family Relations I	245-250 Family Housing
212-264 Child Guidance	245-275 Management of Family Resources
212-350 Family Relations II	245-360 Consumer Economics
212-680 Aging Persons	413-501 Introduction to Guidance
214-109 Applied Design for Family Living	421-422 Secondary Education Seminar
214-110 Male/Female Apparel	421-381 Secondary Reading
214-140 Textiles I	
214-266 Apparel Construction	
242-101 Experiential Learning in Home Economics	

SYSTEMS DIETETICS

254-141 Digital Computer Programming	354-241 Assembly Language Programming
354-xxx Computer Applications for Dietetics	354-341 Data Structures
354-240 Intermediate Computer Programming	355-153 Calculus I

VOCATION/FOOD SERVICE AND NUTRITION

229-620 Food Styling	413-501 Introduction to Guidance
242-240 Micro-Teaching	421-461 Education Evaluation
242-301 Home Economics Curriculum	199-602 Principles of Vocational, Technical and Adult Education
242-620 Vocational Programs	
245-312 Restaurant Operations Management	

EARLY CHILDHOOD EDUCATION

This Early Childhood Education program provides students with the knowledge and skills needed for working with young children in educational settings. The prescribed courses meet the requirements for Nursery-Kindergarten teaching certification for the State of Wisconsin. A cooperative program with the University of Wisconsin-Eau Claire offers the opportunity for additional certification in grades 1-8.

The Early Childhood Education program places emphasis both on general education and preparation for a professional career. In the major studies, involvement with children and families begins the freshman year with observation/participation experiences in Stout's Child and Family Study Center, Day Care Facility, and/or Infant-Toddler laboratory. General education encourages exploration of a variety of fields of knowledge to pro-

vide educational experiences that will develop the ability to express one's self effectively, develop clear and critical thinking, and develop awareness of the great ideas and accomplishments of mankind.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 135 credits
Required in general education studies----- 49 credits
Required in major studies ----- 86 credits
2. Cumulative G.P.A. of 2.25 is required for entrance to student teaching.
3. Upon entrance to 212-408A Student Teaching in Early Childhood Centers, students must have on file a current physical health examination certificate.
4. Students in Early Childhood Education must demonstrate English composition and speech proficiency by obtaining a "C" or better in English 102 or its equivalent (or achieve a proficiency rating on an English proficiency test), and pass a speech proficiency test before they become certified for teaching.

PROGRAM REQUIREMENTS

GENERAL EDUCATION STUDIES—49 credits required

General requirements—minimum of 16 credits

Course	Credit
326-101* or 326-111, Freshman English: Composition-----	3
326-102* or 326-112, Freshman English: Reading and Related Writing--	3
391-100, Fundamentals of Speech* -----	2
479-110, General Psychology* -----	3
367-xxx, Any Physical Education Activity Course(s)* -----	1
355-118, Concepts of Mathematics* or 355-120, Intro to College Math I	4

Select a minimum of 8 credits from: Biology 308-122, 134, 142, 152; Chemistry 311-115 or 135; Physics 372-251, 252, 254.

Select a minimum of 6 credits from: Political Science 375-210* or Anthropology 303-250, Economics 320-201, 320-210, Geography 336-104 or Sociology 387-110.

Select a minimum of 13 credits - Literature (minimum of 3 credits) 326-303, 348, 355, 400, 401; History (minimum of 3 credits) 338-105, 120, 121, 140, 141; Language and Philosophy (minimum of 2 credits) 326-339, 328-101, 329-103, 365-201, 365-301, 300-255 and 500-500.

Select a minimum of 5 credits from Art, Music, Media, Speech, Theater.

Electives to total 49 credits.

MAJOR STUDIES—minimum of 86 credits

Career Development-Minimum of 1 credit

212-100, Introduction to Early Childhood Education Programs* -----	1
Developmental Processes, Health and Safety-minimum of 17 credits -----	
212-124, Child Development I* -----	3
212-163, Adult-Child Interaction* -----	2

212-250, Family Relationships I*-----	3
479-451, Children's Learning* -----	3
431-532, Psychology of Exceptional Child* -----	2
229-136, Food for Young Children* -----	2
366-340, ARC First Aid and Personal Safety* -----	2
Professional Education-minimum of 54 credits. (The following four-level sequence of courses must be taken in sequence with each level satisfactorily completed before courses in the next level can be taken.)	
Level I	
212-264, Child Guidance* -----	2
212-265, Child Guidance Practicum*-----	1
360-308, Music for Young Children*-----	3
421-303, Educational Psychology* -----	2
367-265, Physical Activities for Young Children* -----	2
326-300, Literature for Young Children*-----	3
Level II	
212-204, Teaching/Learning Strategies: Early Childhood Education* -----	5
212-168, Fostering Language Development in Young Children*-----	3
600-560, Audio Visual Communication*-----	2
212-342, Creative Activities For Young Children* -----	3
212-433, Reading in Early Childhood Education* -----	3
Level III	
212-303, Curriculum I: Language Arts and Social Sciences in Early Childhood Education*-----	2
212-333, Curriculum II: Science and Mathematics in Early Childhood Education*-----	2
212-545, Programming for Early Childhood Exceptional Education Needs*-----	2
212-407, Parent Education/Involvement* -----	2
212-685, Seminar in Culturally Distinct Child and Family* and -----	3
212-235, Child Development Lab* -----	1
Level IV	
212-408A, Student Teaching in Preschool Programs** -----	4
212-409, Clinical Seminar in Preschool Programs* -----	.5
212-408B, Student Teaching in Kindergarten**-----	4
212-411, Clinical Seminar in Kindergarten Education*-----	.5
212-420, Theories of Early Childhood Education*-----	2
212-665, Administration of Early Childhood Education Programs*-----	2
Electives-minimum of 14 credits	

Students may use electives to fulfill requirements for one of the following concentrations: Supervision and Training; Day Care Programming; Kindergarten Education; Education Children Special Learning Needs; and Administration.

*Required courses with grade of "C" or better.

**Students must have accumulative GPA of 2.25 for acceptance into student teaching and must make written application to the program director two semesters before enrolling these practica.

FASHION MERCHANDISING

Fashion Merchandising is a four-year program designed to prepare students for entry into the retail department store specialty and/or low margin store business. Program requirements are structured to provide the student with specific retailing skills and comprehension; broad knowledge of general business in areas such as marketing, accounting, economics and advertising; and self-growth through a variety of liberal studies such as mathematics, humanities, social sciences, English, science and communications. In addition to a Fashion Merchandising major, the program includes a minor in business, with the potential for a second major or second minor utilizing the free elective allowances.

Career possibilities available to Fashion Merchandising majors are limited only to the individual's capabilities. But a typical, not exclusive, broad list would include: group manager, store manager, buyer, divisional merchandise manager, resident buyer, director of personnel, promotion-publicity manager and operations manager. There is little limitation to type of merchandise, which typically includes: apparel, gifts-china, fashions for the home such as interiors and domestics, shoes, cosmetics, furniture, fabrics, and entertainment centers. Independent study projects or transfer requirements must have approval of the program director.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in liberal studies -----	54-59 credits
Required in major studies -----	63-64 credits
Electives -----	8-15 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—54-59 credits required

COMMUNICATION SKILLS CLUSTER (GPA 2.5)	Credit
326-101, Freshman English: Composition-----	3
326-102, Freshman English: Reading and Writing-----	3
326-any, Writing-----	3
391-100, Fundamentals of Speech-----	2
<i>Select 2-4 credits from the following:</i>	
391-200, Persuasive Speaking -----	2
391-206, Discussion-----	2
391-210, Interpersonal Communications -----	2
391-508, Speech Skills for Business and Industry -----	2

GENERAL STUDIES CLUSTER

338-xxx, History or 375-xxx, Political Science-----	3
387-110, Introduction to Sociology-----	3
326-xxx, Any Literature-----	3
304-101, Fundamentals of Design -----	3
304-xxx, Any Art -----	2-3
366- or 367, Physical Education -----	2

479-110, General Psychology-----	3
<i>Select 2-4 credits</i>	
391-232, Introduction to Theater-----	3
360-xxx, Music -----	1-2
328-xxx, French -----	4
329-xxx, Spanish -----	4
<i>Select 3 credits</i>	
212-250, Family Relations -----	3
303-xxx, Anthropology-----	3
365-xxx, Philosophy -----	3
<i>Select 4-5 credits</i>	
308-xxx, Biology -----	2-4
311-115, Chemistry-----	5

MAJOR STUDIES—63-64 credits required**RETAIL CLUSTER (GPA 2.5 - Min. 2.0 in each course)**

214-398, Field Experience-----	2
214-120, Introduction to Clothing, Textiles and Merchandising -----	2
214-227, Basic Merchandising -----	3
214-327, RTW Merchandising-----	2
214-329, Merchandising Promotion -----	3
214-430, Merchandising Plan and Control-----	3
214-525, Mens-Boys Merchandising -----	1
214-625, Mass Merchandising -----	3
214-527, Store Management-----	3
214-426, Practicum (Niche) -----	3

RETAIL RELATED BUSINESS CLUSTER (GPA 2.5)

320-210, Economics I*-----	3
320-215, Economics II*-----	3
160-206, Accounting I -----	3
160-207, Accounting II -----	3
150-304, Principles of Business Management -----	3
160-330, Marketing -----	3
160-334, Sales Management-----	3
160-370, Advertising -----	3
<i>Select 2 courses from the following:</i>	
150-600, Organizational Leadership -----	3
479-579, Public Relations -----	2
479-582, Personnel Management -----	3

RETAIL RELATED CLUSTER

214-110, Principles of Apparel Design-----	1
214-140, Textiles-----	3
214-225, Clothing and Textiles Industry -----	3
214-610, History of Costume: Ancient to European or-----	3
214-611, History of American Costume-----	3
214-617, Social-Psychological Aspects of Clothing -----	3
245-360, Consumer Economics-----	3
355-xxx, Math (but not 010-116)* -----	4

*Represents 10 credits of Liberal Studies

ELECTIVES—8-15 credits required

Electives are selected from courses approved at Stout, or those approved for transfer. Special options are available, including a semester in London or New York, semester internships, study tours during spring break, and other special activities designed to add to academic and personal growth.

FOOD SERVICE ADMINISTRATION

This program meets academic requirements for membership in the American Dietetic Association (ADA).

The program in Food Service Administration provides the academic background for a career as an administrator in large quantity food production and service facilities. Areas in which a food service administrator would be concerned in serving nutritional diets to large groups of people (100 or more) are: industrial feeding; airline feeding; school food service; university food service; nursing home and hospital food service; day care and geriatric centers; fast food service; commissary food production; vending food operation; and supermarket management. Concentrations available in non-traditional employment are: Food Service Equipment Design, Food Service Equipment Manufacturing, Food Service Equipment Marketing and Sales, and Food Service Facility Planning.

GENERAL REQUIREMENTS—B.S. DEGREE:

- | | |
|--|-----------------|
| 1. Total for graduation ----- | 133-134 credits |
| Required in general studies----- | 64-70 credits |
| Required in major studies ----- | 68 credits |
| Electives----- | 15-16 credits |
|
2. The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments. | |
|
3. Work experience must be obtained through participation in the Field Experience program. | |
|
4. Students must attain a grade of "C" or better in each of the courses within Liberal Studies, Major Studies and concentrations. These requirements also apply to transfer credits. | |

PROGRAM REQUIREMENTS

GENERAL STUDIES—68-73 credits required

Course	Credit
391-100, Fundamentals of Speech and Speech Proficiency Exam* -----	2

391-206, Discussion-----	2
391-208, Theory of Communication-----	3
391-204, Techniques of Group Leadership-----	2
391-512, Speech Skills for Educators -----	2
329-103, Elementary Spanish -----	4
329-104, Elementary Spanish -----	4
413-444, Introduction to Group Processes -----	2
326-101, Freshman English: Composition* or 326-111, Honors English --	3
326-102, Freshman English: Reading and Related Writing* or -----	
326-112, Honors English -----	3
326-546, Research Reporting* or-----	2
326-515, Technical Writing for Home Economics*-----	3
355-120, Introduction to College Math* or-----	4
xxx-xxx, Three years of high school academic mathematics*-----	0
421-303, Educational Psychology* -----	2
242-201, Teaching Techniques in Home Economics* -----	2
242-240, Clinical Experience in Micro-Teaching-----	1
242-341, Clinical Experience in Schools-----	1
242-241, Clinical Experience in the Community -----	1
600-560, Audio-Visual Communications*-----	2
354-140, Concepts of Computer* or -----	2
354-141, Digital Computer Programming -----	2
354-130, Elementary Statistics or -----	2
354-530, Statistical Methods -----	2
212-xxx, Any Human Development and Family Living Course -----	
387-110, Introductory Sociology* -----	3
214-617, Social-Psychological Aspects of Clothing -----	3
303-xxx, Any Anthropology*-----	3
479-110, General Psychology* -----	3
338-xxx, Any History course -----	3
320-210, Principles of Economics I* -----	3
320-215, Principles of Economics II* -----	3
320-420, Labor Economics* -----	3
375-210, Government* or -----	3
375-310, Political Parties and Pressure Groups* or -----	3
375-320, Civil Liberties in the United States* -----	3
311-125, Principles of Chemistry for Health Sciences-----	5
311-201, Organic Chemistry Lecture*-----	3
311-203, Organic Chemistry Lab* -----	1
308-306, General Microbiology*-----	4
308-132, Physiology and Anatomy*-----	4
229-212, Nutrition* (*)-----	3

*Required Courses

(*) 311-201, Organic Chemistry and 308-132, Physiology and Anatomy, prerequisites.

Select 9 credits from three different areas of the following*

304-101, Fundamentals of Design -----	3
326-xxx, Any Literature course	
360-xxx, Any Music course, except 360-090, Stage Band	
365-xxx, Any Philosophy course, except 365-301, Logic	
391-232, Introduction to Theater or 391-334, Contemporary Theater	

600-535, Film: History and Appreciation
 367-xxx, Physical Education (Activity)

MAJOR STUDIES—45-47 credits required

229-101, Dietetics as a Profession*	1
229-240, Food Science* (*)	4
245-311, Quantity Food Production*	3
229-661, Social and Cultural Aspects of Food*	2
229-308, Meal Management*	3
245-312, Restaurant Operational Management*	3
229-260, Menu Planning and Design*	2
245-x98, Field Experience*	2
245-222, Institutional Food Purchasing*	2
245-371, Food, Beverage and Labor Cost Controls*	2
245-501, Food Service Administration*	3
245-521, Food Service Equipment*	2
245-656, Microwave Oven*	2
160-206, Principles of Accounting I*	3
160-207, Principles of Accounting II*	3
160-318, Business Law	3
160-330, Principles of Marketing*	3
150-304, Principles of Business Management*	3
479-582, Personnel Management*	3
366-340, Standard First Aid and Personal Safety*	2

*Required courses

(*) 311-201, Organic Chemistry, prerequisite

CONCENTRATIONS:

FOOD SERVICE EQUIPMENT DESIGN

130-110 Drafting or	304-330 Industrial Design I
130-311 Technical Drafting	304-340 Industrial Design II
130-513 Technical Rendering	
170-205 Design for Industry	245-6xx Food Service Analysis Seminar

FACILITY PLANNING

130-180 Hospitality, Living and Institutional Facility Planning	214-109 Applied Design in Family Living or
140-587 Human Factors Engineering	214-545 Commercial and Household Textiles
130-526 Building Construction Specifications	130-325 Architectural Design II
170-570 Mechanical Systems	245-621 Food Service Layout Analysis
245-436 Residential and Industrial Lighting or	

FOOD SERVICE EQUIPMENT MANUFACTURING

130-110 Drafting or	170-260 Sheet Metal
372-xxx Physics for Home Economics	170-209 General Finishing
170-202 Metals	
170-250 Plastics I	245-6xx Food Service Analysis Seminar

FOOD SERVICE EQUIPMENT MARKETING AND SALES

130-180 Hospitality, Living and Institutional Facility Planning	160-370 Principles of Advertising
170-201 Processes: Manufacturing	160-679 Marketing Research
160-334 Salesmanship and Sales Management	245-6xx Food Service Analysis Seminar

ELECTIVES—15-16 credits required. From courses offered at Stout or those approved for transfer.

HOME ECONOMICS IN BUSINESS

Home Economics in Business is a four-year program leading to a Bachelor of Science degree. The goal of this program is to develop competencies which will enable a person to function effectively as a member of a business organization. This task is accomplished by a combination of classes from Liberal Studies, Major Studies, General Electives and/or Minor.

Liberal Studies provides broad learning experiences in art, science, English, mathematics, and the behavioral sciences. The courses taken in Major Studies depend on the concentration chosen. The four concentrations from which a student may select are: Foods/Equipment, Food Science, Consumer Affairs or Interior Decorating. The number of elective credits varies depending on the number of credits required to complete the concentration. These electives can be used to expand knowledge in an area of interest, explore selected disciplines or to complete a Minor.

The Home Economics in Business program prepares individuals for various careers in business and public service in areas such as public relations, banking and finance, sales, food processing, home equipment manufacturing, journalism and interior decoration.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation -----	128 credits
Required in general studies -----	64-68 credits
Required in major studies (depending on concentration) -----	38-56 credits
Electives or minor -----	5-26 credits

PROGRAM REQUIREMENTS

GENERAL STUDIES—64-68 credits required

Course	Credit
391-100, Fundamentals of Speech -----	2
326-101 or 326-111, Freshman English: Composition -----	3
326-102 or 326-112, Freshman English: Reading and Related Writing ---	3
366-xxx or 367-xxx, Any Physical Education course -----	1
Utilization of oral symbols -----	7
Utilization of written symbols -----	5
Utilization of numerical symbols-----	4
Understanding the psychological/sociological nature of man -----	6
Understanding the economics aspects of the American business/industrial system -----	3
Understanding the management organization aspects of business/industry-----	14
Understanding man's inherent physical nature and/or his environment ---	2-5
Understanding the creative/rational aspects of man-----	6
Understanding and appreciating the historic/socio-cultural/political aspects of man-----	6
Understanding the philosophical ethical aspects of man -----	2-3

MAJOR STUDIES—Courses will be selected according to concentration(s) chosen.

CONCENTRATIONS—39-56 credits required

To complete the program, a student selects one or more concentrations. Four concentrations are available:

FOODS/EQUIPMENT

110-204 Electricity	245-521 Food Service Equipment
170-280 Packaging Fundamentals	245-655 Major Kitchen Appliances
229-240 Food Science	245-656 Microwave Oven
229-212 Nutrition	245-658 Experimental Laundry Procedures
229-308 Meal Management	308-306 General Microbiology must be taken under General Task, Science 2-5 credit area.
229-446 Food Preservation	308-506 Food Microbiology
229-638 Experimental Foods	311-115 Introductory College Chemistry/Lab or
229-642 Advanced Foods	311-135 College Chemistry/Lab
229-661 Social and Cultural Aspects of Food	311-201 Organic Chemistry
245-211 Quantity Food Production	311-203 Organic Chemistry/Lab
245-250 Family Housing	
245-355 Home Equipment Operational Principles	

FOOD SCIENCE

150-200 Production Management

150-520 Quality Assurance

229-212 Nutrition	311-511 Biochemistry
229-410 Advanced Nutrition	311-515 Food Chemistry
229-240 Food Science	311-531 Quantitative Analysis
229-638 Experimental Foods	311-535 Instrumental Methods of Analysis
229-642 Advanced Foods	Recommended under General Task Area
245-211 Quantity Food Production	354-130 Elementary Statistics
308-506 Food Microbiology	354-140 Computer Concepts
311-115 or 311-135 Inorganic Chemistry/Lab	308-306 General Microbiology must be taken under General Task, Science 2-5 credit area.
311-201 Organic Chemistry	
311-203 Organic Chemistry/Lab	

CONSUMER AFFAIRS

160-207 Principles of Accounting II	245-360 Consumer Economics
160-370 Principles of Advertising	245-436 Lighting for Residential Interiors
229-124 Foods	245-565 Consumer Aspects of Life Insurance
229-212 Nutrition	245-566 Health Insurance
229-308 Meal Management	245-650 Human Habitat
229-446 Food Preservation	245-656 Microwave Oven
229-606 Nutrition Education	245-660 Consumer Credit
229-633 Maternal and Child Nutrition	245-662 Consumer Protection
242-201 Teaching Techniques	245-663 Consumer Law
245-250 Family Housing	320-350 Money and Banking
245-275 Management of Family Resources	320-445 Public Finance
245-355 Home Equipment Operational Principles	479-579 Public Relations

INTERIOR DECORATING

170-241 Machine Woodworking	245-250 Family Housing
170-250 Plastics I	245-681 Special Problems in Habitational Resources
214-140 Textiles*	214-592 Practicum in Textile Print
130-110 Drafting	214-590 Practicum in Textile Design
130-180 Hospitality, Living and Institutional Facility Planning*	214-690 Advanced Textile Design-Stitchery
130-221 Architectural Design I	214-693 Structural Design and Weaving
130-325 Architectural Design II	214-695 Historic and Contemporary Fabrics
170-270 Light Building Construction I	304-100 Drawing*
170-372 Heating and Air Conditioning	304-101 Fundamentals of Design*
245-355 Home Equipment Operational Principles	304-513 Ceramics
245-436 Lighting for Residential Interior	304-515 Art Metal
304-204 Interior Designs*	304-202 Introduction to Art*
304-205 Problems in Interior Design*	304-522 Modern Art
304-533 Period Furnishings*	304-523 Survey of Art: Ancient Through Medieval
245-650 Human Habitat	
245-330 Ecology of the Home (308-150)	
245-531 Ecology of the Habitat	

304-524 Survey of Art: Renaissance through 20th Century	304-531 Southern Baroque Art
304-525 Egyptian and Mesopotamian Art	305-600 18th Century European Art
304-526 Greek and Roman Art	304-601 Pre-Columbian Art
304-527 Medieval Art	304-602 American Art
304-528 Italian Renaissance Art	304-603 19th Century Art in Europe
304-529 Northern Renaissance Art	304-604 Art Since 1950
304-530 Northern Baroque Art	304-605 Oriental Art
	304-606 Oriental Art

*Required Courses

ELECTIVES—5-26 credits required

HOME ECONOMICS EDUCATION

Although work in Home Economics Education opens many job opportunities, the greatest number of positions available to graduates with a Bachelor of Science degree in Home Economics Education are in secondary education, extension education and curriculum development in business and industry.

Home economics at the elementary, secondary and post-secondary level has been changing and will continue to change. One of the most apparent changes in the public schools is the offering of semester courses in substantive areas rather than integrated generalized offerings. Home economics teachers must be prepared to teach all areas in a one-teacher department, but the multi-teacher departments allow specialization. The number of single teacher home economics departments is decreasing and the number of multi-teacher departments increasing.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 135 credits
 Required in liberal studies ----- 44 credits
 Required in major studies ----- 54 credits
 Required in professional education ----- 27 credits
 Electives ----- 10-11 credits
2. There are four planning systems which encourage individualized education and allow for maximum flexibility within the guidelines for a certifiable program of 135 credits. When planning the sequence of experiences leading to the Bachelor of Science degree with a major in Home Economics Education, the student should select and organize the classes within one of four planning systems. Depending on the program selected by the student, elective credits can be used to obtain a minor (22 credits) or concentration (10-18 credits) within a certain area. A combination of a minor and a concentration is also possible, but may require additional time beyond the usual four years.

3. To qualify for student teaching, the candidate must fulfill the English adequacy, the speech proficiency and the health requirements and must have a minimum cumulative grade point average of 2.25.
4. Concentrations:

APPAREL, TEXTILES AND DESIGN - Preparation for teaching semester or occupation-oriented courses at secondary and post-secondary levels.

AVOCATIONAL INTERESTS - Preparation for employment in schools, community programs, craft schools, workshops, campus, hospitals, special projects for the aged and other interest groups related to Home Economics knowledge and skills.

CAREER DEVELOPMENT - Provides teachers wider employment opportunities in working with Career Development either at secondary level or as an elementary consultant.

CONSUMER EDUCATION - Preparation for teaching semester courses and gives greater depth in teaching a comprehensive program.

EXTENSION AND COMMUNITY SERVICES - Preparation for employment in co-operative extension education and teaching in varied community programs.

FAMILY LIFE AND CHILD DEVELOPMENT - Preparation for teaching specialized courses at elementary, middle, secondary and post-secondary levels. Fulfills one of the greatest contemporary needs in education. Opportunities open for both men and women.

FOOD SERVICE AND NUTRITION - Popular with both men and women. Preparation for teaching semester or occupational-oriented courses at secondary and post-secondary levels.

HABITAT, EQUIPMENT AND MANAGEMENT - Preparation of men and women to teach semester courses or become employed in business and industry. Leads to further graduate work.

INDIVIDUALLY DESIGNED - The student in consultation with the program adviser design the concentration to meet individual needs.

MIDDLE SCHOOL - Certifiable program for teaching Home Economics in the middle school.

OCCUPATIONAL-ORIENTED EDUCATION - Preparation of men and women to teach occupation-oriented programs in secondary and post-secondary schools.

REHABILITATION - Provides opportunities of employment for teaching Home Economics to the handicapped.

SPECIAL FIELDS - Certifiable program for education of the slow learner in Home Economics.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—44 credits required

Course	Credit
304-xxx, Art elective -----	3
308-132, Physiology and Anatomy -----	4
311-115, Introductory College Chemistry or -----	5
311-135, College Chemistry I -----	5
320-201, General Economics -----	3
326-101 or 326-111, Freshman English -----	3
326-102 or 326-112, Freshman English -----	3
326-xxx, English elective -----	3
367-1xx, Physical Education elective-----	2
387-110, Introductory Sociology or -----	3
303-220, Introduction to Cultural Anthropology -----	3
391-100, Fundamentals of Speech-----	2
479-110, General Psychology-----	3
<i>Select any 3-credit course in History or Government-----</i>	3
Liberal Studies electives -----	7

MAJOR STUDIES—54 credits required

212-264, Child Guidance-----	2
212-124, Child Development I -----	3
212-250, Family Relationships I -----	3
212-350, Family Relationships II -----	3
212-xxx, Family Life elective-----	1
214-110, Principles of Apparel Design-----	1
214-140, Textiles I-----	3
214-266, Apparel Construction-----	3
214-109, Applied Design for Family Living -----	2
229-124, Foods -----	4
229-212, Nutrition-----	3
229-318, Meal Management Practicum -----	2
245-275, Management of Family Resources-----	3
245-250, Family Housing -----	3
245-360, Consumer Economics-----	3
245-xxx, Any Equipment Course -----	2-3
Major Studies electives (minimum) -----	12

PROFESSIONAL EDUCATION—24-27 credits required

242-241, Clinical Experience in the Community -----	1
242-101, Experiential Learning in Home Economics -----	1
242-201, Teaching Techniques in Home Economics -----	2
242-240, Clinical Experiences in Micro-Teaching-----	1
242-341, Clinical Experiences in Schools -----	1
242-301, Home Economics Curriculum -----	3
242-443, Clinical Seminar in Home Economics Education -----	2

242-444, Practicum in Teaching Home Economics or-----	6
242-488, Internship Teaching -----	8
413-501, Introduction to Guidance or -----	2
421-590, Mental Health in Schools -----	2
421-303, Educational Psychology or -----	2
421-522, Secondary Education Seminar-----	2
421-630, Mainstreaming Special Students-----	3
421-682, Reading Methods-Secondary School -----	2

ELECTIVES—11-13 credits required from courses offered at Stout or those approved for transfer.

HOME ECONOMICS GENERAL

The Home Economics General program serves a dual purpose: it provides a temporary major for the student who is undecided which of the nine career-specific programs to choose; it provides a degree granting program for the Home Economics student who shows high leadership potential and who is not concerned with a curriculum designed to meet career-specific needs.

GENERAL REQUIREMENTS—TEMPORARY MAJOR

A student who is undecided about which program to choose works with an adviser from the School of Home Economics in selecting course work. The student must select a career-specific program before the end of the sophomore year.

GENERAL REQUIREMENTS—B.S. DEGREE PROGRAM MAJOR:

Each student admitted to pursue the degree program will plan an individualized curriculum. The student will be admitted to Home Economics General. At the end of a year and a half, the student will be eligible to apply for admittance to the degree program. The student will fill out a formal application which will be reviewed by the Program Director and the Home Economics General Program Committee. Each student applicant will be interviewed by the committee. The committee will decide which applicants will be admitted to the degree program.

Total for graduation-----	128 credits
Required in liberal studies -----	50 credits
Required in major studies -----	44 credits
Required in leadership component-----	10 credits
Electives and/or minor-----	24 credits

LIBERAL STUDIES—50 credits required

391-100, Fundamentals of Speech -----	2
326-101, 102, English -----	6
355-xxx, Math -----	4
(Required only if high school background did not include two years of college-oriented math.)	

Select the remaining credits 38-42 from the following categories:

Humanities 8-10 credits. Choose from the following: English Literature, Foreign Language (Literature), History, Art History and Art Appreciation, Music Appreciation or Theory, Philosophy, and Introduction to Theater.

Natural Sciences and Mathematics 8-10 credits. Choose from the following: Biology, Chemistry, Mathematics, and Physics.

Social Sciences 12-14 credits. Choose from the following: Anthropology, Economics, Political Science, Psychology, and Sociology.

Arts 8-10 credits. Choose from the following: Art, Advanced and Creative Writing, Music (performance courses), Modern Dance, and Speech (Oral Interpretation and Theater).

Major Studies—44 credits required

Family is the central concern of all Home Economists. The knowledge and skills developed in Home Economics courses can be conceptualized by examining the family and its immediate physical environment in a tangible, dynamic context. Course work for this component is described in terms of People, Habitat and Interaction:

People—The study of individuals and their development in families as discussed in applied course work that builds on knowledge gained in General Education courses. Course work dealing with family formation, development of children, adult development, family structure and family roles would be appropriate.

Habitat—The study of the material context of family life—food, textiles, furnishings, housing, and equipment. Course work on the immediate physical environment—territories, food, textiles, furnishings, equipment, housing and their relationship to the larger environment would be appropriate.

Interaction—The study of action and reactions that constitute the process of interaction between family members and the near environment. Course work in family relationships, decision-making and conflict resolution, leisure, work and ceremonial or symbolic events.

LEADERSHIP COMPONENT—10 credits required

Students are required to select one course from Groups A, B, and C and both courses in Group D.

(A) Understand the Characteristics of Individuals and Groups

212-535, Seminar in Self Growth-----	2
387-250, Social Psychology -----	3

(B) Utilize Communication Skills

326-515, Technical Writing for Home Economics -----	3
391-200, Persuasive Speaking -----	2
391-208, Theory of Communication-----	2
391-508, Speech Skills for Business and Industry -----	3

391-206, Discussion-----	2
(C) Utilize Leadership Techniques	
391-204, Techniques of Group Leadership-----	2
479-570, Assertiveness Training Procedures-----	2
500-100, Applied Student Leadership -----	2
150-600, Organizational Leadership -----	3
300-225, Creative Problem Solving-----	2
(D) Demonstrate Leadership in Home Economics	
200-199, Home Economics Futures -----	.5
200-499, Independent Study in Home Economics-----	1-2

ELECTIVES AND/OR MINOR—24 credits required

HOTEL AND RESTAURANT MANAGEMENT

Hotel and Restaurant Management is one of America's fastest growing industries. Each year, the amount of leisure time increases for thousands of Americans, and with that increase, comes a growing demand on the hospitality industry. As existing lodging and dining facilities expand, new businesses are being started to accommodate more and more people who want new and better hospitality services.

Stout's specialized mission enables Hotel and Restaurant Management majors to receive a variety of training. The four-year curriculum is structured to allow for both practical and theoretical training, giving students specific skills needed to have successful management careers. The program also provides studies in the liberal arts to give graduates a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society.

GENERAL REQUIREMENTS—B.S. DEGREE:

1. Total for graduation ----- 130 credits
 Required in liberal arts----- 46 credits
 Required in professional studies ----- 72-73 credits
 Electives in professional studies ----- 6 credits
 Electives ----- 6 credits
2. The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.
3. Work experience must be obtained through participation in the Field Experience program during the junior year and/or the summer between the junior and senior year. A minimum of 2 credits for 320 hours of approved work experience is required.
4. Students must attain a grade of "C" or better in each of the courses within the professional studies. In order for transfer courses to be accepted in the program, this same grade requirement must be met.

PROGRAM REQUIREMENTS

LIBERAL ARTS—46 credits required

Course	Credit
320-210, Principles of Economics I-----	3
326-101, Freshman English: Composition-----	3
326-102, Freshman English: Reading and Related Writing -----	3
355-120, Introduction to College Mathematics I, or-----	4
Any higher level course	
366, 367, Any Health or Physical Education-----	2
375- Any Political Science -----	3
391-100, Fundamentals of Speech-----	2
<i>Select 5 credits from the following (must include one lab experience) -----</i>	5
308- Biology	
311- Chemistry	
372- Physics	
<i>Select 3 credits from the following -----</i>	3
479-110, General Psychology	
479-150, Man: A Course of Study	
479-281, Environmental Psychology	
<i>Select 3 credits from the following -----</i>	3
212-250, Family Relationships I	
303-220, Introduction to Cultural Anthropology	
387-110, Introductory Sociology	
<i>Select 9 credits from at least two of the following areas-----</i>	9
304- Art History	
304- Art (non-performance)	
326- Literature	
338- History	
360- Music (non-performance)	
365- Philosophy or Logic	
500- Interdisciplinary Studies	
<i>Select 6 credits from the following areas-----</i>	6
304- Art (performance)	
326- Writing	
328, 329 Foreign Language	
360- Music (performance)	
367- Dance	
391- Theatre (performance and non-performance)	
391- Speech	
<i>Select 6 credits from any department within the University (may not duplicate courses used in other sections of this program)</i>	

PROFESSIONAL STUDIES*—78-79 credits required

Operational Management: (50 credits)

130-180, Hospitality, Living and Institutional Facility Planning-----	2
150-450, Maintenance Management-----	2
160-318, Business Law-----	3

229-124, Foods -----	4
229-308, Meal Management-----	3
245-100, The Role of Management in the Hospitality Industry-----	2
245-201, Hospitality Housekeeping Management-----	2
245-202, Front Office Management -----	3
245-222, Institutional Food Purchasing -----	2
245-240, Introduction to Tourism and the Travel Industry-----	2
245-301, Bar Management-----	2
245-311, Quantity Food Production-----	3
245-312, Restaurant Operational Management-----	3
245-340, Development of Tourism Attractions-----	3
245-344, Hospitality Marketing and Sales-----	3
245-498, Field Experience-----	2
245-515, Lodging Administration -----	3
245-625, Hospitality Industry Law and Liability-----	3
308-206, Food Service and Environmental Sanitation-----	1

*Grade Requirement—All courses in Professional Studies require a grade of “C” or better. It is recommended that an “F” or “D” be repeated the following semester.

Personnel Management: (10-11 Credits)

245-205, Hospitality Organization Management -----	3
245-600, Integrated Management Systems-Hospitality -----	2
245-626, Employee and Labor Relations in the Hospitality Industry or	
320-420, Labor Economics-----	2
479-582, Personnel Management -----	3

Financial Management: (12 Credits)

160-206, Principles of Accounting I-----	3
245-370, Hotel and Restaurant Accounting -----	3
245-371, Food, Beverage and Labor Cost Controls -----	3
245-670, Hospitality Industry Financial Analysis, Budgeting and Forecasting -----	3

Select 6 credits from the following: (cannot duplicate other sections)----- 6

- 130- Any Architectural Design
- 160- Any Business Administration
- 229- Any Food and Nutrition
- 245- Any Habitational Resources (Hotel and Restaurant Management area)
- 354- Any Computer Course

479-579, Public Relations ----- 2

SCHOOL OF LIBERAL STUDIES

Dr. Gerane T. Dougherty, Dean

Programs:

- Applied Mathematics
- Art
- Art Education

APPLIED MATHEMATICS

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's needs is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics.

The program in Applied Mathematics provides: (1) a strong foundation in academic mathematics; (2) computational concepts and techniques in computer science, statistics and mathematical models; (3) experiences in areas where mathematics, computers and/or statistics are utilized; and (4) a broad offering of liberal arts courses.

At the completion of the freshman year or after entering the Applied Mathematics program, all students prepare and submit a tentative plan or guide for their undergraduate program. This plan is developed through consultation with an academic advisor and the Program Director. The ultimate plan is developed to meet the student's professional objectives and goals through the appropriate selection of courses within the major studies and the desired related area in which mathematics, computers and/or statistics are used.

Off-campus work in an approved position using computer and/or statistical techniques in the analysis and solution of real world problems is a valuable option within this major. Students receive salaried appointments and course credits. This experience can be included within the program and completed during the junior or senior year. The duration of the experience is for periods of a summer or a summer plus one semester.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation -----	130 credits
Required in liberal studies -----	50 credits
Required in major studies -----	53 credits
Required in sub-major -----	18 credits
Electives -----	9 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—50 credits required

Course	Credit
326-101 and 102 or 326-111 and 112, and 326-516, English-----	9
391-100 and 508, Speech-----	4
367-1xx, Physical Education-----	2
<i>Select at least 6 credits from the following:</i>	
479-110, Psychology-----	3
387-110 or 250, Sociology-----	3-6
365-201 or 550, Philosophy -----	3-6
308-520, Comparative Ethology I -----	2
<i>Select at least 6 credits from the following:</i>	
320-210, 215 or 420, Economics -----	3-6
375-210, 310, Government -----	3-6
338-xxx, History -----	3-6
<i>Select at least 3 credits from the following:</i>	
326-xxx, Literature -----	3
304-xxx, Art -----	2-3
360-xxx, Music -----	2-3
391-xxx, Theatre -----	2-3
<i>Select at least 10 credits from the following:</i>	
372-xxx, Physics* -----	5-10
308-xxx, Biology* -----	3-10
311-xxx, Chemistry* -----	5-10

*Non-laboratory courses will be allowed only by special permission.

FOUNDATIONAL MATHEMATICS (31 credits min.)

<i>Select 8-16 credits from the following in analytical techniques:</i>	
355-156 and 157, Calculus and Analytic Geometry I and II-----	10
355-153, 154, 158, Calculus I, II and III -----	11
355-255, Differential Equations -----	3
<i>Required courses in algebraic techniques:</i>	
355-275, Linear Algebra -----	3
355-370, Modern Algebra I-----	3
<i>Select 6 credits from the following theoretical analysis:</i>	
355-450 and 451, Real Analysis I and II-----	6
355-460, Complex Variables-----	3
<i>Select from the following electives:</i>	
355-371, Modern Algebra II-----	3
355-262, Modern Geometry -----	3

COMPUTATIONAL MATHEMATICS (22 credits min.)

<i>Select at least 3 credits from the following in statistical methods:</i>	
354-531 and 532, Design of Experiments I and II -----	4
354-530, Statistical Methods -----	3

<i>Select at least 3 credits from the following in statistical theory:</i>	
354-331 and 332, Probability and Mathematical Statistics I and II-----	6
<i>Select at least 2 credits from the following in computer languages:</i>	
354-141, Digital Computer Programming -----	2
354-241, Assembly Language Programming -----	2
354-246, Computer Programming—COBOL -----	3
354-590, Topics (Computer Science)-----	2
<i>Select at least 3 credits from the following in computer methods:</i>	
354-240, Intermediate Computer Programming -----	3
354-245, Numerical Methods -----	2
354-445, Numerical Analysis-----	3
354-341, Data Structures-----	3
354-441, 442, Computer Arch. and Operating Systems I and II -----	6
<i>Required courses in Mathematical Modeling:</i>	
354-490 and 491, Mathematical Models I and II -----	4

SUB-MAJORS IN RELATED AREAS (18 credit min.)

Each student selects a sub-major where he or she can use mathematics, computers and/or statistics to develop and enhance the ability to solve problems in his or her area of interest. The area of interest can be chosen from the following sub-majors: Applied Physics, Applied Research, Architectural Design, Business Management, Electronics, Food Production Quality Control, Industrial Management, Mechanical Design, and Numerical Control. The selecting of a sub-major is made at the time a student completes his or her program guide plan.

INTERNSHIP OPTION

354-475, Applied Mathematics Internship-----	2-8
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ELECTIVES

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, Physics, Chemistry, Biology, Computer Science or Speech. It is the student's responsibility to obtain approval for the minor from the department offering it.

ART

The Art program includes three divisions of study: Studio Art, Industrial Design and Interior Design. The curriculum provides students with experiences in studio work, art history, professional studies and liberal studies. It offers basic and broad experiences for those who wish to pursue goals in higher education or in specific design fields. The program entails extensive work in major studio and professional areas which provide the needed breadth of experience during the freshman and sophomore years. It permits numerous elective courses during the junior and senior years and enables students to become involved in-depth with a concentrated area of their choice. Students enjoy flexibility in determining a

program suitable to their interests. Elective courses may be made from course offerings in other departments.

The art history and liberal studies requirements, considered essential for the education of the Art major, are also elective in nature with broad offerings in both areas. A 2.25 grade point is necessary for graduation. Students earn a Bachelor of Science degree upon successful completion of the program. All Studio Art majors are required to present an exhibition of their work during their senior year. All Design Art majors are required to present a portfolio of their work.

GENERAL REQUIREMENTS—B.S. DEGREE: Studio

Total for graduation -----	132 credits
Required in liberal studies -----	56 credits
Required in major studies -----	76 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—56 credits required

Course	Credit
326-101, Freshman English: Composition or -----	3
326-111, Freshman English: Honors -----	3
326-102, Freshman English: Composition or -----	3
326-112, Freshman English: Honors -----	3
326-250, Classical and Biblical Literature in Translation -----	3
391-100, Fundamentals of Speech -----	2
355-xxx, Math (Elective may be substituted if proficiency is exhibited to Math Dept. through testing or background)-----	4
366-xxx, Health -----	1
367-xxx, Physical Education-----	2
304-522, History of Modern Art-----	3
304-607, Esthetics (Senior Year) -----	3

Select 9 credits from Humanities choosing from at least two areas: 326-xxx Literature, Foreign Language, 365-xxx Philosophy or 338-xxx History.

Select 9 credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropology, or 336-xxx Geography.

Select 8 credits from Natural Sciences including at least one lab course: 308-xxx Biology, 311-xxx Chemistry or 372-xxx Physics.

Select 6 credits from Liberal Studies Electives from the above categories. Note: 479-110 General Psychology may be accepted as a Liberal Studies Elective.

MAJOR STUDIES—76 credits required

304-101, Fundamentals of Design -----	3
304-100, Drawing -----	3
304-500, Drawing (Adv.) -----	3
304-501, Life Drawing -----	3
304-502, Life Drawing (Adv.) -----	3

304-509, Painting -----	3
304-510, Painting (Adv.) -----	3
304-511, Sculpture-----	3
304-512, Sculpture (Adv.)-----	3
304-513, Ceramics-----	3
304-514, Ceramics (Adv.)-----	3
304-515, Art Metal-----	3
304-516, Art Metal (Adv.)-----	3
304-517, Printmaking -----	3
304-518, Printmaking (Adv.) -----	3

(Any two advanced studies (Adv.) may be deleted except 304-500.)

Art Studio Selective: In completing this group, the student must take a minimum of 9 credits in a chosen area beyond the "advanced" level. This establishes a "concentration" which the student must declare to an adviser at the end of the fourth semester of study.

Art History: Select 15 credits from any Art History offering.

INDUSTRIAL DESIGN

GENERAL REQUIREMENTS—B.S. DEGREE

Total for graduation-----	132 credits
Required in liberal studies -----	54 credits
Required in major studies -----	72-77 credits
Electives -----	1-6 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—54 credits required

Course	Credit
326-101, Freshman English: Composition or -----	3
326-111, Freshman English: Honors -----	3
326-102, Freshman English: Composition or -----	3
326-112, Freshman English: Honors -----	3
391-100, Fundamentals of Speech -----	2
354-141, Digital Computer Programming or -----	2
354-140, Computer Concepts-----	2
355-xxx, Math (Elective may be substituted if proficiency is exhibited to the Math Dept. through testing or background) -----	4
320-201, General Economics or -----	3
320-210, Principles of Economics I-----	3
479-632, Perception or -----	3
479-110, General Psychology -----	3
366-xxx, Health -----	1
367-xxx, Physical Education-----	2
304-319, Evolution of Design -----	3

- 304-522, History of Modern Art----- 3
Select 12 credits from Humanities choosing from at least two areas: 326-xxx Literature, Foreign Language, 365-xxx Philosophy or 338-xxx History.
Select 6 credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropology, or 336-xxx Geography.
Select 7 credits from Natural Sciences including at least one lab course: 308-xxx Biology, 311-xxx Chemistry, 372-xxx Physics.

MAJOR STUDIES—72-77 credits required

Technical Courses	Credit
130-110, Drafting-----	2
130-311, Technical Drafting-----	3
170-110, Processes and Concepts -----	3
<i>Select five courses from the following:</i>	
304-101, Fundamentals of Design -----	3
304-100, Drawing-----	3
304-500, Drawing (Adv.)-----	3
304-503, Advanced Designs-----	3
304-305, Presentation Techniques -----	3
304-511, Sculpture-----	3
304-300, Design, Theory and Methods -----	3
304-330, Industrial Design I-----	3
304-340, Industrial Design II-----	3
304-430, Industrial Design III-----	4
304-440, Industrial Design IV-----	4
304-310, Graphic Design I-----	3
304-360, Graphic Design II-----	3
304-315, Evolution of Design or -----	3
304-320, Furniture Design -----	
304-xxx, Portfolio Development-----	1
<i>Select at least 9 credits from two areas:</i>	
304-500, Drawing; 304-501, Life Drawing; 304-509, (or 510) Painting; 304-511, (or 512) Sculpture; 304-513, (or 514) Ceramics; 304-515 (or 516), Art Metal; 304-517 (or 518), Printmaking.	

Select sufficient electives to meet the 132-credit degree requirements.

INTERIOR DESIGN

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	132 credits
Required in liberal studies -----	56 credits
Required in major studies -----	70-74 credits
Electives -----	2-6 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—56 credits required

Course	Credit
326-101, Freshman English: Composition or -----	3
326-111, Freshman English: Honors -----	3
326-102, Freshman English: Composition or -----	3
326-112, Freshman English: Honors -----	3
326-250, Classical and Biblical Literature in Translation -----	3
326-351, European Literature in Translation -----	3
391-100, Fundamentals of Speech-----	2
355-xxx, Math (Elective may be substituted if proficiency is exhibited to the Math Dept. through testing or background)-----	4
320-201, General Economics or -----	3
320-210, Principles of Economics I-----	3
479-632, Perception or -----	3
479-110, General Psychology-----	3
366-xxx, Health -----	1
367-xxx, Physical Education-----	2
304-522, History of Modern Art-----	3
304-319, Evolution of Design-----	3
304-533, Period Furnishings -----	3
<i>Select 9 credits from Humanities choosing from at least two areas: 326-xxx Literature, Foreign Language, 365-xxx Philosophy or 338-xxx History.</i>	
<i>Select 6 credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropology, or 336-xxx Geography.</i>	
<i>Select 8 credits from Natural Sciences including at least one lab course: 308-xxx Biology, 311-xxx Chemistry, or 372-xxx Physics.</i>	

MAJOR STUDIES—70-74 credits required

Technical Courses	Credit
130-110, Drafting -----	2
130-221, Architectural Drafting I -----	3
170-270, Building Construction -----	2
214-140, Textiles I-----	3
<i>Select four courses from the following:</i>	
304-101, Fundamentals of Design -----	3
304-100, Drawing -----	3
304-500, Drawing (Adv.) -----	3
304-503, Advanced Design-----	3
304-305, Presentation Techniques -----	3
304-511, Sculpture or -----	3
304-513, Ceramics -----	3
304-204, Interior Design-----	3
304-205, Problems in Interior Design-----	2
304-532, Economics of Home Furnishings -----	3

304-315, Environmental Design I-----	3
304-316, Environmental Design II-----	3
304-320, Furniture Design -----	3
304-451, Practicum-----	3
304-431, Symposium -----	2

Select at least 12 credits from two areas:

304-500, Drawing (Adv.); 304-501, Life Drawing; 304-511, (or 512) Sculpture; 304-513, (or 514) Ceramics; 304-509, (or 510) Painting; 304-515, (or 516) Art Metal; 304-517, (or 518) Printmaking.

Select sufficient electives to meet the 132-credit degree requirement.

ART EDUCATION

The Art Education program offers a curriculum designed to provide a broad experience in studio areas, art history and liberal studies, as well as appropriate experience in Art Education. Much of the program is of an elective nature, permitting the individual to develop a course of study suitable to personal needs and to gain depth in areas of one's interest.

Students must decide by their junior year which program to pursue. The education curriculum is taken at this time. Art Education theory courses and student teaching are taken concurrently and comprise a full semester's study during the senior year.

There is now an optional 11 credit concentration in Special Education for those students who wish to add Special Education in Art to their core Art Education program of 132 credits.

Successful completion of the Art Education program qualifies the graduate for certification by the State Department of Public Instruction for teaching and supervision in elementary and secondary schools. A 2.25 overall grade point average and a 2.5 grade point average in Art Department courses are required for admission to student teaching. Students who complete the program receive a Bachelor of Science degree. All Art Education majors are required to present an exhibition of their work during their senior year.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	132 credits
Required in liberal studies -----	47 credits
Required in major studies -----	57 credits
Required in professional studies-----	28 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—47 credits required

Course	Credit
326-101, Freshman English: Composition or -----	3
326-111, Freshman English: Honors -----	

326-102, Freshman English: Composition or -----	3
326-112, Freshman English: Honors -----	
326-250, Classical and Biblical Literature in Translation -----	3
391-100, Fundamentals of Speech -----	2
355-xxx, Math (Elective may be substituted if proficiency is exhibited to Math Dept. through testing or background)-----	4
479-110, General Psychology-----	3
366-xxx, Health -----	1
367-xxx, Physical Education-----	1
304-522, History of Modern Art-----	3
304-607, Esthetics (Senior Year) -----	3

Select 6 credits from Humanities choosing from at least two areas: 326-xxx Literature, Foreign Language, 365-xxx Philosophy or 338-xxx History.

Select 9 credits from Social Sciences choosing from at least two areas: 320-xxx Economics, 375-xxx Political Science, 387-xxx Sociology, 303-xxx Anthropology or 336-xxx Geography.

Select 6 credits from Natural Sciences including at least one lab course: 308-xxx Biology, 311-xxx Chemistry or 372-xxx Physics.

MAJOR STUDIES—57 credits required

304-101, Fundamentals of Design -----	3
304-100, Drawing -----	3
304-500, Drawing (Adv.) -----	3
304-501, Life Drawing -----	3
304-509, Painting -----	3
304-510, Painting (Adv.) -----	3
304-511, Sculpture-----	3
304-512, Sculpture (Adv.)-----	3
304-513, Ceramics-----	3
304-514, Ceramics (Adv.)-----	3
304-515, Art Metal-----	3
304-516, Art Metal (Adv.)-----	3
304-517, Printmaking -----	3
304-518, Printmaking (Adv.) -----	3
(One advanced studio may be deleted from above except 304-500)	
Art Oriented Studio Electives -----	9
Art History—Select 9 credits from any Art History offering.	

PROFESSIONAL STUDIES—28 credits required

304-208, Pre-Teaching Seminar (Sophomore Year) -----	3
421-303, Educational Psychology-----	2
421-422, Principles of Secondary Education-----	2
431-630, Mainstreaming Special Students-----	3
421-682, Reading Methods -----	2
405-611, Curriculum Development -----	2
The following courses are taken in the same semester.	
405-608, Introduction to Teaching Art-Elementary-----	3
405-609, Introduction to Teaching Art-Secondary -----	3

405-408, Student Teaching Art - Elementary -----	4
405-409, Student Teaching Art - Secondary -----	4

SCHOOL OF EDUCATION

Dr. Paul Hoffman, Acting Dean

Programs:

Psychology

Vocational Rehabilitation

PSYCHOLOGY

Psychology, as a program, is the systematic study of behavior, particularly the behavior of individuals—their actions, reactions and cognitions. It has as its overriding goal the preparation of students to contribute to the improved condition of man. Students acquire competencies that lead to employment wherever psychology is applied in educational institutions, public and private agencies, business and industry. Students entering the program should realize that they must obtain graduate level education or other advanced training before they will be accepted as professional psychologists.

The Psychology Program is flexible. Students are given the opportunity to develop a personal program plan centered around their individual needs and goals. With careful planning, students may include self-planned concentrations in their programs in such diverse areas as biofeedback technology, human services, family issues, industrial psychology, and many others. As well, students may elect to pursue a course of study that can lead to certification as a psychology teacher at the secondary school level. All students are expected to include a core of study in the fundamental principles of human behavior in their programs and each is expected to develop literacy in the arts, humanities, natural sciences, and social sciences. Each student is also expected to develop and demonstrate effective communication skills as a part of the program's requirements.

After entering the Psychology Program, all students prepare and submit a tentative plan for the remainder of their undergraduate program as a part of their activities in Psychology Seminar I. This tentative plan is based on their particular personal, vocational and professional interests and goals and is developed with the guidance of the Psychology program director and Psychology faculty.

GENERAL REQUIREMENTS—B.A. DEGREE:

Total for graduation -----	130 credits
Required in liberal studies -----	70 credits

Required in major studies -----	40 credits
Electives -----	20 credits

PROGRAM REQUIREMENTS

LIBERAL STUDIES—70 credits required

Communications (at least 25 credits) Suggested courses include fundamental English courses and advanced writing courses; fundamental and advanced speech courses; foreign languages; basic statistics; computer programming; journalism; graphic arts; audio-visual communications; reading courses; and others. Students are strongly advised to develop a variety of communication skills involving many different modes of communication.

Fine Arts, Physical Education, and Humanities (at least 15 credits) Suggested courses include art and music appreciation courses; literature courses; philosophy courses; and physical education courses which contribute to good personal health and the development of recreation skills. Students are strongly advised to plan at least one literature course and one philosophy course in this area of their program plan.

Mathematics, Natural and Physical Sciences (at least 15 credits) Students are strongly advised to include at least one college level math course and one laboratory science course. Courses in genetics, physiology, anatomy, sexual biology, animal behavior, and organic chemistry are particularly appropriate for Psychology students. Applied Mathematics courses (e.g. Computer Programming, Statistics, etc.) cannot be used for electives in this category, but with planning, may be used as communications credit.

Social Sciences (at least 15 credits) Students are strongly advised to include at least one sociology course and a balance of courses in history, economics, political science, and anthropology in their program plan.

MAJOR STUDIES—40 credits required

All students enroll in a continuing seminar as a part of their program. As they progress through these seminars, they develop new competencies and demonstrate their achievements. While in Psychology Seminar I, students plan their four-year programs and take a core of required courses: 479-110, 479-120, 479-150, and 479-190. After submitting their program plan and completing the required courses, they progress to Psychology Seminar II.

Course	Credit
<i>Required Courses:</i>	
479-100, Psychology Seminar I -----	1
479-110, General Psychology -----	3
479-120, Psychology: Its History and Systems -----	3
479-150, Man: A Course of Study-----	3
479-190, Psychology Methods I-----	3
479-x98, Field Experience-----	2
479-x99, Independent Study ----- (at least) 1	1
<i>Advanced, Elective Courses:</i>	
479-251, Child Psychology -----	3
479-281, Environmental Psychology -----	3

479-390, Experimental Psychology*	3
479-460, Personality and Mental Health-----	3
479-484, Introduction to Behavior Modification-----	2
479-530, Psychology of Learning*-----	3
470-535, Motivation and Emotion*-----	3
479-540, Psychology of Individual and Group Differences-----	3
479-552, Adolescent Psychology -----	3
479-561, Abnormal Psychology -----	3
479-570, Assertive Training Procedures-----	2
479-571, Psychology of Marriage and the Family-----	2
479-574, Psychology of Women-----	2
479-581, Industrial Psychology-----	2
479-632, Perception*-----	3
479-690, Psychological Measurement*-----	3
326-541, Psycholinguistics -----	3
387-250, Social Psychology -----	3
413-501, Introduction to Guidance-----	2
One other 413 course-----	2-3
421-303, Educational Psychology-----	2
One other 421 course-----	2-3
459-101, Introduction to Rehabilitation-----	3
One other 459 course-----	2-3
Behaviorally related courses in Life Sciences (e.g. Animal Behavior, Neuroanatomy, Psychobiology)-----	2-3

Others as appropriate to individual program plans

*Courses conducted primarily for Psychology majors and minors. All Psychology students are strongly advised to include a selection of these courses in their program.

ELECTIVES—20 credits required

As much as possible, the courses in this area of the program are free electives. The particular courses students take for this area depend on their choice of a minor, self-planned concentrations, and personal goals. Many courses in the School of Home Economics and the School of Industry and Technology may help students in Psychology to develop important competencies. These are suggested to students in separate communications.

MINOR STUDIES—22 credits required

Students in the Psychology Program are required to complete a minor program. They may elect to complete one of the minor programs offered in various departments at Stout, or with the program director's advice and approval, they may substitute a preplanned program of work developed around a particular concept or process. The minor program overlaps other areas of the program and is not a separate selection of courses beyond the three areas described above.

NON-TRADITIONAL LEARNING EXPERIENCES

In recognition of the value that may be derived from learning experiences that take place outside of the traditional classroom, the psychology program requires all students to complete at least one field experience. This involves a working/learning activity and is often

completed during a summer break. In addition, the program requires or encourages students to participate in additional varieties of learning activities including independent study, internships, foreign study, exchange programs and others.

SENIOR RESEARCH INVESTIGATION

As a culminating experience in the program, in conjunction with Psychology Seminar III, students conduct and report an original research investigation pertinent to Psychology and to their particular interests. This project provides the opportunity for students to practice skills they have acquired and to apply the knowledge they have attained in their studies.

VOCATIONAL REHABILITATION

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help handicapped citizens optimize their vocational potential. A general listing of these competencies includes:

- A. Knowledge of the history, philosophy, and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including sheltered workshops, rehabilitation facilities, vocational rehabilitation agencies; knowledge of mental, physical, and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist the handicapped; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
- B. Elementary skill in the use of vocational evaluation techniques; elementary skill in work adjustment and counseling techniques; and elementary skill in utilizing job placement and follow-up procedures for the handicapped.
- C. Ability to interact effectively with handicapped people. Handicapped persons include those with physical, emotional and social disabilities such as: mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses. The graduates of this program are employed in sheltered workshops, rehabilitation facilities, state vocational rehabilitation agencies, adult day care centers, mental health clinics, half way houses, and a variety of other facilities serving the handicapped. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

GENERAL REQUIREMENTS—B.S. DEGREE:

Total for graduation-----	130 credits
Required in liberal studies -----	44-48 credits
Required in major studies -----	53 credits
Required in special studies* -----	22 credits
Electives -----	7-11 credits

1. *Students must select a special studies concentration from either business, home economics, industry, physical education, or develop their own individualized concentration with the advice and consent of their faculty advisor. Courses in these areas are designed to provide specific technical skills for working with the handicapped and disadvantaged in rehabilitation settings.
2. Students majoring in rehabilitation must obtain a "C" or better in all courses taught in the rehabilitation department. The student will have the option of taking the course over again and obtaining a "C" or better or dropping from the program. In addition, an overall grade point of 2.5 is required for all courses taught by the rehabilitation department.
3. Students must fulfill the English adequacy and speech proficiency requirements of the respective departments.

PROGRAM REQUIREMENTS

LIBERAL STUDIES—44-48 credits required

Course	Credit
326-101 and 326-102, English*	6
391-100, Speech*	2
326-3xx, Advanced Writing or 391-xxx, Advanced Speech*	2-3
308-132, Physiology and Anatomy*	4
308-220, Physiology of Disabilities*	3
355-1xx, or higher mathematics-----	4
387-110, Introduction to Sociology-----	3
479-110, Psychology-----	3
421-205, Human Relations-----	2
320-xxx, Economics or -----	
375-xxx, Political Science -----	3
338-xxx, History -----	2-3
Literature or Foreign Language	3
365-xxx, Philosophy -----	3
Art, Music, Theater or Photography-----	2-3
Any 366-xxx or 367-xxx-----	2

*A grade of "C" or better is required in these courses before graduation.

MAJOR STUDIES—55 credits required

459-101, Introduction to Rehabilitation-----	3
459-102, Community Resources -----	3
459-201, Basic Skills in Rehabilitation -----	2
459-205, Rehabilitation Practicum -----	4
459-x98, Field Experience-----	2
459-310, Vocational Evaluation-----	4
459-311, Work Adjustment Services-----	3
459-330, Psycho-Social Aspects of Disabilities-----	3
459-401, Caseload Management-----	2
459-410, Placement Processes With Handicapped -----	3

479-561, Abnormal Psychology -----	3
459-585, Rehabilitation of the Mentally Retarded -----	2
459-610, Psychological Testing With Handicapped People-----	2
413-675, Counseling Theory -----	2
459-680, Principles of Rehabilitation Counseling -----	3
<i>Select 12 credits from the following restricted electives:</i>	
459-x98, Field Experience-----	up to 4
459-x99, Independent Studies -----	up to 6
421-305, Teaching Practicum -----	2
459-325, Rehabilitation of the Sensory Disabled -----	3
110-380, Driver Education for Handicapped -----	2-3
459-402, Rehabilitation Facility Operations-----	3
459-505, Sign Language I-----	3
459-506, Sign Language II-----	3
459-520, Rehabilitation of the Chemically Dependent -----	3
431-561, Prescriptive Diagnostic Teaching -----	3
431-581, Legal Rights of the Handicapped-----	2
459-682, Sexuality and the Handicapped -----	2
459-685, Group Processes in Rehabilitation Settings -----	2
413-444, Introduction to Group Processes -----	2
459-413, Vocational Evaluation Seminar -----	2
459-525, Rehabilitation of the Public Offender -----	3

SPECIAL STUDIES—22 credits required from one of the five following concentrations:

BUSINESS

160-206, Principles of Accounting I-----	3
160-207, Principles of Accounting II-----	3
Business restrictive electives -----	16

HOME ECONOMICS

Human Development-Family Living restrictive electives -----	8
Habitational Resources restrictive electives-----	4
Food and Nutrition restrictive electives -----	5
Apparel, Textile, and Design restrictive electives-----	5

INDUSTRIAL

170-101, Processes: Concepts-----	3
150-200, Production Management-----	3
Industrial Arts and Production Management restrictive electives-----	16

PHYSICAL EDUCATION

367-315, Adapted Physical Education -----	3
366-340, First Aid -----	2
367-340, Camp Leadership or-----	2
367-325, Recreation Leadership -----	2

366-355, Kinesiology -----	3
366-346, Cardiopulmonary Resuscitation -----	.5
Restricted Electives in 366-xxx and/or 367-xxx -----	11.5

INDIVIDUALIZED CAREER

This concentration is designed for students whose educational goal cannot be met by any of the previous tracks. Students who elect this track must develop, with the advice and consent of their faculty advisor, a list of the 22 credits they plan to take. They must also submit a written rationale for the selection of these credits explaining how they will promote their educational and career goals. The course list and rationale signed by the student and the student's advisor will be kept in the student's file. An individualized career track should be completed prior to the beginning of the senior year.

ELECTIVES—12 credits required

From courses offered at Stout or those approved for transfer.

SPECIAL EDUCATION TEACHER CERTIFICATION

Special Education Teacher Certification (Secondary EMR) may be obtained along with a Bachelor of Science degree in Vocational Rehabilitation by completing the required credits in Liberal Studies and the following courses. Students considering this unique program must see the Special Education Program Director for arrangements. A grade of "C" or better and a grade point average of 2.5 or higher is required in all Special Education and Rehabilitation courses.

SPECIAL STUDIES—at least 20 credits required

Course	Credit
212-250, Family Relations I -----	3
229-124, Foods or 229-212 Nutrition -----	3-4
214-266, Apparel Construction or 214-590 Practicum in Textile Design--	3
170-101, Processes -----	3
170-304, Ind. Crafts or 170-270 Lt. Building Construction -----	2
130-140, Introduction to Graphic Arts -----	2
110-210, General Motor Mechanics or 110-580 Driver Education for the Handicapped -----	2
600-560, Audio Visual Communications -----	2

SPECIAL EDUCATION—42 credits required

431-532, Psychology of the Exceptional Child -----	3
421-205, Human Relations for the Helping Professions-----	2
421-536, Working with Culturally Different -----	2
421-438, Curriculum Development-----	2
421-440, Management of the Learning Environment-----	2
421-682, Reading Methods-Secondary Schools-----	2
431-559, Curriculum for the Retarded -----	2
431-560, Special Education Methods and Materials-----	2
431-561, Prescriptive Diagnostic Teaching -----	3

431-562, Clinical Experience With the Handicapped-----	2
431-585, Mental Retardation-----	2
431-660, Practicum in Special Education-----	2
431-661, Career Education-----	3
431-662, Classroom Management Techniques -----	3
431-480, Student Teaching - MR-----	8
431-555, Issues in Special Education or 431-581 Legal Rights of the Handicapped -----	2

VOCATIONAL REHABILITATION—24 credits required

459-101, Introduction to Rehabilitation-----	3
459-102, Community Resources -----	3
459-201, Basic Skills in Rehabilitation -----	2
459-310, Vocational Evaluation-----	4
459-3xx, Rehabilitation of the Mentally Ill-----	2
459-401, Principles and Techniques of Case Load Management-----	2
459-410, Placement Processes with the Handicapped -----	3
459-610, Psychological Testing with Handicapped People-----	2
459-680, Principles of Rehabilitation Counseling -----	3

ELECTIVES—6-7 credits required

SPECIAL FIELDS CERTIFICATION

Special Fields Certification is an “add-on” teaching certificate to allow teachers in special fields, i.e., Industrial Education, Home Economics, Physical Education, and Art Education to teach special needs students in their particular field. The following planned sequence of courses will allow students completing teacher certification in special fields and/or teachers already certified in special fields to receive Special Education certification within their special field. This 11-semester credit sequence is recognized as an approved program by the Wisconsin Department of Public Instruction.

431-532, Psychology of the Exceptional Child -----	3
431-561, Prescriptive Diagnostic Teaching -----	3
431-562, Clinical Experience With Handicapped Youth*-----	2
431-662, Classroom Management Techniques -----	3

*This course may be waived for students exposed to supervised clinical experience with handicapped youth in student teaching.

MINORS AND CERTIFICATION PROGRAMS

Aviation/Aerospace	Computer Science	Physics
Art	Economics	Psychology
Biology	English	Sociology
Business Administration	History	Speech
Chemistry	Journalism	Traffic Safety
Coaching Certification	Mathematics	Women's Studies

Minors are defined as teaching and non-teaching. Teaching minors are those approved by the State Department of Public Instruction for certification. Requirements for the teaching minors include an education major, the methods course 421-305 in the minor, and some student teaching experience in the minor field, in addition to the required credits within the minor. The Approval Form for Minor Program must be submitted to the department offering the minor before starting the minor to assure an acceptable sequence of courses.

AVIATION/AEROSPACE STUDIES

A minimum of 23-semester hours is required for a minor in Aviation/Aerospace Studies. There are two options: (1) a teaching minor, which must be part of a teaching major and (2) a non-teaching minor.

Required courses for either option are 110-630, 110-631, 190-505, 170-560, 372-221 and 195-300. Additional required courses for the teaching minor are: 110-635 or 110-x99 and 190-205 or 421-305. Some student teaching is required in Aerospace Education. Additional required courses for the non-teaching minor are: 110-635 and 110-x99.

ART

Twenty-two to 24-semester hours are required. Required courses are 304-101, 304-100, and 304-522. The additional 13-to-15 credits may be accumulated in one of three "tracks." Track number one offers a varied overview approach; Track number two, a more concentrated emphasis via a variety of two or three dimensional areas; and Track number three allows for specific emphasis in any single Art area with the exception of Art Education.

BIOLOGY

A non-teaching minor consists of 22-semester hours of biology. The required courses in biology are 308-132, 308-142, 308-152, and 308-306. Additional courses to complete 22-semester hours of biology will be selected. Of these no more than two of the courses 308-150, 308-332, and 308-342 will be acceptable. The course 308-122 is acceptable only when taken before the courses 308-142 and 308-152. Inorganic chemistry is not required for the non-teaching minor.

All students entering a minor program in biology will be assigned a faculty adviser to aid the student in proper scheduling of courses.

BUSINESS ADMINISTRATION

A minor in Business Administration consists of 22-semester hours. The minor must be approved by the Department. Required courses are 160-206, 160-207, 160-304, 160-330, 320-210, and 320-215 (18 credits). Elective courses may be selected from any business course or other course(s) approved by the Department of Business and Industrial Management (4 credits).

CHEMISTRY

Twenty-two semester hours are required. Required courses are 311-115 or 311-125 or 311-135, 311-136, 311-201, and 311-203. At least one of 311-204 or 311-531 or 311-535 plus additional selected chemistry courses to obtain 22-semester hours. Chemistry minors who plan to obtain teaching certificates are required to select 311-501, 311-503, and 311-535 plus an additional two-semester hour course 421-305, for a total of 24 semester credits.

COACHING CERTIFICATION

Eighteen-semester hours are required for certification with at least one course in each of five areas. Asterisk (*) denote required courses. Area I: 366-340* and 366-350*; Area II: 367-350, 367-360 and 367-450; Area III: 367-401, 367-460, 367-461, 367-465, 367-470, 367-471 and 367-478; Area IV: 308-132*, 366-355*; Area V: 366-102 and 366-365*. Area VI contains elective courses for the 22-credit minor only.

COMPUTER SCIENCE

Twenty-two semester hours are required for a minor program in Computer Science. The minor program is to be planned with and approved by the Department of Mathematics. Required courses are: (354-141 and 354-240) or 354-143; 354-241; two of 354-245, 354-

341 and 354-445; and Independent Study, Field Experience or Internship. Additional courses will be selected by the student and the Department.

ECONOMICS

Students may elect a 22-credit minor in Economics either for teaching or non-teaching. Required courses are 320-210, 320-215, 320-325, 320-410 and 320-415. Additional economics courses will be selected. 338-520 may be included. However, both 320-335 and 320-440 may not be applied to the minor. Students who take a teaching minor must also take 421-305, Teaching Practicum, 2 credits, in addition to the 22-credit minor.

ENGLISH

A teaching minor in English consists of 22 semester hours in English plus two semester hours in Education Methods. A non-teaching minor in English consists of 22 semester hours in English.

Students must have 2.5 grade point in English courses to be awarded the minor. All English minor programs must be approved by the Department of English.

Students who wish to be certified to teach English must take a teaching minor in English. A teaching minor in English must include the following courses: 326-340, 326-402, 421-305. From each of the following sets, students must choose at least one: a) 326-344 or 326-347; b) 326-350, 326-355, 326-360; c) 326-348, 326-400, 326-401. Additional credits will be selected from the offerings in English, exclusive of 326-101 and 326-102; 326-111, Honors, and 326-112, Honors, may be included.

A non-teaching minor in English for those who do not wish to be certified to teach is taken with an option in either literature or writing.

The non-teaching English minor with an option in literature must include one course in English Literature and one course in American Literature. The remaining 16 credits may be selected from the other literature offerings; one advanced writing course may be included; 326-347 is suggested.

The non-teaching minor in English with an option in writing includes courses from the following blocks: (a) language (minimum of three semester hours); (b) literature (minimum of six semester hours); (c) writing (minimum of 11 semester hours); and (d) electives (minimum of two semester hours from any of the above blocks).

HISTORY

Students may elect a 22-credit minor in History either for teaching or non-teaching. Required courses are 338-120, 338-121, 338-140 and 338-141. Additional history courses will be selected.

Students who take a teaching minor must include two of the following courses: 338-322, 338-360, and 338-380 and, in addition to the 22-credit minor, must take 421-305 Teaching Practicum, 2 credits.

JOURNALISM

Twenty-two semester hours are required. Students must have a 2.5 grade point in courses submitted for the minor. Required courses are 326-306, 326-518, 326-410, 326-515 or 326-516; 326-425, 479-579, 130-140 and 600-504. Additional courses will be selected from 326- (any literature course numbered 200 or above), 304-101, 130-475, 375-210, 338-220, 338-210, 387-225, 375-310, 391-554, 391-244, Field Experience and Independent Study.

MATHEMATICS

A minor program in Mathematics may be chosen as a teaching or a non-teaching minor. Either program is to be planned with and approved by the Department of Mathematics. The program leading to teaching certification requires 24-semester hours. The required courses are: 355-153 or 355-156, 355-262, 355-275, 354-331 or 354-530, 355-370 and 421-305. Additional courses will be selected by the student and the Department. A non-teaching minor in Mathematics requires a minimum of 22-semester hours. The required courses are: 355-153 and 355-154, or 355-156 and 355-157. Additional courses will be selected by the student and the Department.

PHYSICS

Twenty-two semester hours are required. Required courses are 372-221, 372-222, 372-223 and 372-529. At least eight credits with a 500 number or greater must be included in the minor program. All minor programs must be planned with and approved by the Physics Department.

PSYCHOLOGY

Twenty-two semester hours are required. Required courses for 11-semester credit hours include: 479-110, 479-460 or 479-561; one of the following: 479-190, 479-690, 421-641, 354-130 or 354-530; 479-251 or 479-552. Courses from which to select 11 or more semester credit hours include: any of the courses listed above not already taken; 479-120, 479-150, 479-281, 479-390, 479-484, 479-530, 479-535, 479-540, 479-570, 479-571, 479-574, 479-581, 479-582, 413-655, 413-675, 413-691, 421-303, 431-532, 459-585, 303-220, 387-250, 326-541, 308-650, 308-651, Field Experience and Independent Study in Psychology.

SOCIOLOGY

Twenty-two semester hours are required. Required course is 387-110. Additional sociology courses will be selected. 303-220, 303-250, 303-300, and 479-571 may be included.

SPEECH

A teaching minor in Speech consists of 24-semester hours. Required courses include 391-101, 391-102, 391-200, 391-206, 391-208, 391-310, 391-512 and 421-305. Additional courses may be selected from speech electives.

A non-teaching minor consists of 22-semester hours with the following four options: General Speech, Communications and Public Address, Radio-Television, and Theater. Each minor includes a minimum of 10-semester hours in the option plus 12-semester hours from the remaining three areas. A maximum of three credits may be selected from communication related courses offered by other departments when approved by the Speech Minor Adviser.

TRAFFIC SAFETY

Twenty-two semester hours are required. Required courses are 140-270*, 140-271, 140-375, 140-377, 140-378, 140-574 and 140-575; at least one of the following three courses is required: 140-380, 140-577, or 140-578. The elective grouping is as follows: 366-340, 421-303, 600-560, 413-501.

*Prerequisite for 140-377.

WOMEN'S STUDIES

Theories and Practical Applications

Twenty-four semester hours are required. Required courses are 500-510, 212-250 or 479-574, 387-275, 479-570 and 326-372 or 304-331. Additional courses will be selected from courses relevant to women's studies in various disciplines, including Independent Study. The minor must be planned with and approved by an adviser. Consult the Office of Assistant Dean, School of Liberal Studies.

THE COURSE DESCRIPTIONS

The courses on the following pages are listed in numerical order with the School of Industry and Technology courses beginning with 100; Home Economics—200; Liberal Studies—300; and Education—400. Learning Resources is the 600 series. Courses numbered 500 are special courses assigned to the Academic Affairs office. The second three digits refer to the course level. The 100 series is primarily freshman; 200 series primarily sophomore, 300 series is primarily junior and 400 series primarily senior, 500 series is junior/senior level but also appropriate for graduate level. The 600 series is senior and graduate level, 700 series is graduate level only while the 800 series is available to graduate students at the Ed.S. level only.

INDUSTRY AND TECHNOLOGY

100-500 INTRODUCTION TO FUTURES STUDY 2 Cr. Introduction to various methods of future prediction, thereby orienting thinking towards future alternatives. In addition, various major areas of human activity will be examined in order to study the major future problems they will face and the impact these

problems will have on the student's lifetime.

100-525 ADVANCED FUTURES STUDY 1 Cr. The application to the student's program area of the strategies of futures study culminating in a student-

designed futures study. Prerequisite: 100-500.

100-590 TECHNICAL SERVICE SCHOOLS 1-6 Cr. Many manufacturers offer special purpose technical courses. Some of them are suitable for college credit. The following guidelines are used to award such credit: 1) the student makes all the arrangements with the manufacturer offering the course; 2) credit is awarded on the basis of one credit for each full week (40 clock hours) of attendance; 3) students must be enrolled and pay fees at the university prior to taking the course; 4) approval by the Dean of S.I.T. will be necessary prior to enrollment for credit; 5) Graduate College approval is required for graduate students taking this course for graduate credit.

ENERGY AND TRANSPORTATION

110-101 ENERGY IN INDUSTRY 2 Cr. The study of energy—sources, forms, controls, conversion, transmission, storage: past, present and future.

110-103 POWER MECHANICS 2 Cr. The study of the internal and external combustion heat engines and principles of mechanical and fluid transmission systems. Present and future applications and limitations are identified. Practical laboratory experiences are emphasized.

110-104 FUNDAMENTALS OF ELECTRONICS 2 Cr. Non-mathematical consumer oriented approach. Electrical device operation, maintenance, use in home, automobile, light industry. Not applicable to Industrial Technology and Industrial Education degrees.

110-201 TRANSPORTATION 2 Cr. Development of the concept area of transportation as related to the need, preparation, methods, destination and control as it relates to American Industry.

110-204 ELECTRICITY 3 Cr. A study of electricity and its associated phenomena such as resistance, capacitance, inductance, DC and AC current, voltage and power. Also included are the principles which apply to motors, generators, transformers, circuits, and consideration for safe generation, distribution and use. Prerequisite: 355-120 or equivalent, 110-101 or 372-221.

110-209 POWER MECHANICS-SMALL ENGINE SERVICE 2 Cr. Mechanical principles and functions of small power units. Operation, maintenance, tune-up and overhaul procedures of small two- and four-cycle engines.

110-210 GENERAL MOTOR MECHANICS 2 Cr. Consumer knowledge on automobile chassis, internal combustion engine components, fuels, ignition, suspension, and drive systems including service and adjustment techniques.

110-240 ELECTRONICS 2 Cr. Solid state rectifiers, amplifiers, oscillators and associated input and output devices. Concepts of electronic communications and application of equipment to selected problems are also studied. Not applicable to the electronics concentration. Prerequisite: 110-204.

110-260 INTRODUCTION TO FLUID POWER 2 Cr. Fundamentals of fluid power: basic fluid mechanics, pneumatics, hydraulics, control systems, common industrial circuits are discussed and tested.

110-303 MECHANICAL POWER TRANSMISSION 3 Cr. Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems.

110-308 THERMODYNAMICS OF INTERNAL COMBUSTION ENGINES 2 Cr. The study of fuels, oxidants and propellants, combustion and combustion processes, and gas laws as they apply to internal combustion engines. Prerequisites: 355-120, 355-121 and 372-221.

110-314 CHASSIS AND RIDE CONTROL 2 Cr. Automotive suspension systems, ride control and brakes. Laboratory work on wheel alignment, balancing, steering systems, and brake rebuilding. Prerequisite: Junior standing.

110-315 COOLING AND HEATING 1 Cr. The theory of operation, typical routine service, component diagnostic procedures needed for the various automotive air conditioning, heating, and cooling systems will be covered.

110-320 BODY REPAIR AND REFINISHING 3 Cr. Damage analysis, repair procedures, surface preparation, and finish application on automobile bodies; accessories, trim, and interiors also included. Prerequisite: Junior standing.

110-322 FUEL AND EXHAUST SYSTEMS 2 Cr. A study of fuels, fuel systems and exhaust systems. Experiences in diagnosis, servicing and repairing the fuel and exhaust systems.

110-343 INTRODUCTION TO SOLID-STATE ELECTRONICS 3 Cr. Theory and use of discrete and integrated solid-

state devices. Application, use of selected laboratory equipment and devices. Prerequisite: 110-204 Electricity.

110-348 MOTORS AND GENERATORS 2 Cr. Rotating machinery concepts; D.C. generators, motors; synchronous motors, generators; induction motors; controls. Prerequisite: 110-204.

110-349 ELECTRIC POWER AND DISTRIBUTION 2 Cr. Single and polyphase residential, commercial, industrial wiring systems, codes, and standards. Prerequisite: 110-204.

110-361 INDUSTRIAL HYDRAULICS 2 Cr. Theory, operation and construction of hydraulic systems and circuits with emphasis on the components: Pumps, reservoirs, lines, control valves, and actuators. Prerequisite: 110-260.

110-362 INDUSTRIAL PNEUMATICS 2 Cr. Theory, operation, and construction of components common to pneumatics and pneumatic-hydraulic systems with application to basic industrial circuits. Components considered: compressors, plumbing, control valves, and actuators. Prerequisite: 110-260.

110-411 ELECTRICAL CIRCUITS AND TUNE UP 3 Cr. Students will gain experience in diagnosing automobile problems associated with the electrical system, the fuel system and the exhaust system.

110-489 BUSINESS AND INDUSTRIAL INTERNSHIP 2-8 Cr. Off-campus work and study in an approved paraprofessional position in business and industry. Salaried appointments in area of student concentration with cooperating

companies for a semester or summer session. Prerequisite: Junior standing or consent of department.

110-505 ENERGY ALTERNATIVES 2
Cr. The broad energy picture: present and future sources, conservation, utilization in home, transportation and industry.

110-506 ENERGY MANAGEMENT 2
Cr. Facilities and equipment utilized in industry will be evaluated in terms of their energy efficiency and feasible modification for improvement of energy consumption. Areas representing large quantities of energy loss will be evaluated through techniques that are presently being utilized. Alternative techniques to overcome losses will be examined and evaluated.

110-508 BICYCLE MAINTENANCE REPAIR AND TRANSPORTATION 2
Cr. Bicycle maintenance, repair, troubleshooting and safety procedures. Units in bicycle selection, vocational opportunities, transportation and bikeway design will be included.

110-511 CARBURETION AND EMISSION 2
Cr. Operational principles of fuel systems and emission control systems. Diagnosing procedures and repairing defective components related to the fuel and emission control system. Prerequisite: 110-411.

110-517 APPLIED INTEGRATED CIRCUITS 3
Cr. Application of integrated circuits in analog/digital systems including analog measurement, data conversion and an introduction to microprocessors. Prerequisite: 10 credits in Physics and/or Electronics.

110-522 EMISSION CONTROL 1 Cr.
Domestic and foreign automotive emissions, their causes, the methods used to control them, and related diagnosis procedures are studied.

110-523 SERVICE MANAGEMENT 2
Cr. Instruction and experiences in auto service management, planning and layout of service facilities, selection of tools and equipment and the development of curriculum and/or work schedule.

110-543 LINEAR CIRCUITS 3 Cr. Linear discrete and integrated solid-state devices used in amplifiers, oscillators, other practical circuits. Application, use of selected laboratory equipment and devices. Prerequisite: 110-343 Introduction to Solid-State Electronics.

110-548 INSTRUMENTATION AND CONTROL 3 Cr. Industrial measurement, control, open loop, closed loop, analog, digital, electrical/electronic, fluidic, mechanical, pneumatic. Prerequisite: 110-343.

110-552 ELECTRONIC COMMUNICATIONS 3 Cr. Electrical/electronic communication systems; modulation; demodulation; r.f., i.f. amplifiers; alignment; antennas; composite TV signal; receivers; transmitters. Prerequisite: 110-343.

110-556 DIGITAL CIRCUITS 3 Cr. Logic gates; Boolean algebra; number systems, codes and operations; combinational, sequential, arithmetic logic, memories. Prerequisite: 110-343 Introduction to Solid-State Electronics.

110-578 TRAFFIC AND HIGHWAY SAFETY PROGRAMS 3 Cr. An overview of the traffic and highway safety

problems, components, research agencies, national, state and local policies, standards, and recommendations for improved traffic safety. Prerequisite: 110-271 or consent of instructor.

110-585 CONTEMPORARY PROBLEMS IN OCCUPATIONAL SAFETY 3 cr. This course will provide an in-depth view of the various specialized administrative and operational problems encountered by the part-time safety specialist or the safety professional. In addition, it will expose the student of occupational safety to the broad scope of functions and tasks that confront the career safety man.

110-595 SEMINAR: (Title to reflect content in electricity/electronics, power mechanics or safety) 1-2 Cr. The specific content is designed to upgrade the competencies of the participants. The content for each offering will change to reflect the current state of the art in: electricity/ electronics, power mechanics or safety.

110-614 TRANSMISSION AND DRIVE TRAINS 2 Cr. Power transmission through gears, clutches and drives common to the automobiles. Fluid couplings, gear sets, differentials, transmissions and drive lines. Prerequisite: 110-314.

110-615 ENGINE MACHINING AND REBUILDING 3 Cr. The rebuilding of fourstroke cycle engines including all necessary precision machining. Special emphasis given to cylinders, blocks, valve trains and reciprocating parts. Prerequisite: Junior standing.

110-622 AUTOMOTIVE PRACTICUM 2 Cr. Experiences in trouble shooting and

servicing all automobile functions as typically done in an auto service facility.

110-630 AVIATION/AEROSPACE STUDIES 3 Cr. Classroom, field and optional flight experiences for educators who wish a better understanding of today's aviation or aero-space industries, details of space exploration, federal licensing regulations, air traffic control, and related career guidance information.

110-631 PRIVATE PILOT'S GROUND SCHOOL 3 Cr. Prepares the beginning flight student for an F.A.A. Private Pilot's Certificate through the study of airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general operation of aircraft and flight theory.

110-635 INTRODUCTION TO FLIGHT 2 Cr. Development of skills and knowledge of flying a single engine aircraft. Instruction includes applied flight theory, dual flight instruction and solo flight. Prerequisite: 110-631.

110-640 TECHNIQUES FOR NETWORK ANALYSIS 3 Cr. Differential equations applied to electric circuit parameters, network equation solutions using digital and analog computers. Prerequisite: 110-204 Electricity and 355-255 Differential Equations.

110-695 AUTOMOTIVE SERVICE EXPERIENCE 2 Cr. Off-campus experience where student will work in a garage or dealership for the purpose of acquiring the knowledge and skills of automotive servicing beyond what the classroom-laboratory provides.

GRAPHIC COMMUNICATIONS

130-100 COMMUNICATIONS 2 Cr. Development of the concept area of communication source, message, receiver, feedback, and interference; study of graphic, electronic, human and media systems of communication.

130-103 COMMUNICATION SYSTEMS TECHNOLOGY 3 Cr. Limits and possibilities of various communication components and systems applied to the solution of communication problems in business and industry. Intended for General Business Administration students. Credit not available to students who have completed 130-100.

130-110 DRAFTING 2 Cr. A graphic communication involving projection concepts to correctly represent three-dimensional forms on two-dimensional surfaces. Principles of shape description, size description, and drafting techniques are implemented through the utilization of problem solutions.

130-140 GRAPHIC ARTS 2 Cr. Broad concepts of the several methods of reproducing visual images. Includes study in design and layout, composition methods, photo-conversion techniques, image carrier devices, image transfer mechanisms, finishing and binding procedures, and economic highlights of the graphic arts.

130-180 HOSPITALITY, LIVING AND INSTITUTIONAL FACILITY PLANNING 2 Cr. Hotel and restaurant drafting involves the use of basic architectural drafting and design content, concepts, media, technique, and methods to record ideas, communicate ideas, and solve

problems relevant to hotel and restaurant management.

130-201 SERVICE ENTERPRISE: COMMUNICATIONS 2 Cr. Application of the elements of business and industry in establishment, management and operations of an enterprise organized to provide service to persons, property or equipment. Prerequisite: 130-100.

130-212 DESCRIPTIVE GEOMETRY 3 Cr. The graphic representation and solution of space problems involving point, lines, planes, intersections, revolutions, and vectors. Prerequisite: 130-110.

130-221 ARCHITECTURAL DESIGN I 3 Cr. Development of graphic simulation techniques and problem-solving abilities; study of site planning, space requirements, housing codes, structure, light frame construction, solar and earth integrated designs, mechanical and electrical systems, as required for the solution of a variety of housing problems. Prerequisite: 130-110 or 130-180 or consent of instructor.

130-234 INTERACTIVE GRAPHICS 2 Cr. Application of interactive graphic systems in the design and drafting setting to include: computer, teletype, CRT terminal, digitizer and plotter. Prerequisite: 130-110.

130-246 TYPOGRAPHY 3 Cr. The basic concepts of two-dimensional design and its relationship to typography in terms of the various printing mediums, art mediums, photography, layout and keylining, type classification and selection, composition practices, color systems and materials. Laboratory experiences with the various materials and techniques used in preparing copy for reproduction. Prerequisite: 130-140 or consent of instructor.

130-251 COMPOSITION 3 Cr. Major emphasis upon cold type composing procedures including impact, transfer, and photo-lettering. Limited attention given to hot type composing procedures as represented in foundry type and hot metal casting. Prerequisite: 130-140 or consent of instructor.

130-290 MECHANICS OF SOLIDS I 3
Cr. Introduction to applied mechanics including: Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress. Graphical and mathematical methods will be used. Prerequisite: 372-221.

130-291 MECHANICS OF SOLIDS II 3
Cr. Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members, and columns. Prerequisites: 130-290 and 355-154.

130-311 TECHNICAL DRAFTING 3
Cr. A comprehensive study of drafting concepts and techniques used by manufacturing industries. The content is technical in nature and it is designed for the learner to understand the graphic language as a means of communication for people in design, assembly, manufacturing, and sales. The learner will attain competencies necessary for him to relate to people using the graphic language of orthographic projection. Prerequisite: 130-110.

130-325 ARCHITECTURAL DESIGN II 3 Cr. Programming and analysis, design solution, presentation and design development drawings for commercial and/or public buildings. Study of design considerations, such as scale, site, codes, energy, acoustics, structure and their relation to form. Prerequisite: 130-221.

130-341 GRAPHIC COMMUNICATIONS PROCESSES 2 Cr. A course designed specifically for the general industrial arts teacher to better enable him to include graphic communications among units of study. Instructional experiences will include: Offset lithography, letterpress, and screen process with appropriate emphasis upon photography. Prerequisite: 130-140.

130-355 LINE AND HALFTONE PHOTOGRAPHY 2 Cr. A study of high contrast photography as it relates specifically to the graphic reproduction processes. Emphasis is upon line, halftone, duo-tone, and special effect film negatives and positives. Prerequisite: 130-140 or consent of instructor.

130-366 IMAGE TRANSFER 3 Cr. Image transfer is a course designed to introduce the concept of printing ink on paper or on other receptors such as plastic, cloth, or glass. It is a study in breadth of lithography, letterpress, gravure, and screen process image carriers, presses, and associated procedures used to transfer an inked image from a carrier to paper. Emphasis is placed on reproducing line and halftone copy, in one or more colors. Experiences are also encountered with step and repeat, multiple imposition, densitometry, ink, paper problems, rollers and quality control. Prerequisite: 130-140 or consent of instructor.

130-370 GENERAL BINDING 2 Cr. Study in-depth of fastening and covering printed materials. Includes mechanical, loose-leaf, wire staple, sewn, and perfect binding methods. Prerequisite: 130-140 or consent of instructor.

130-414 A, B, or C TECHNICAL ILLUSTRATION A=1 Cr., B=1 Cr., C=1 Cr. A study of concepts and drafting techniques to illustrate three-dimensional

forms. Axonometric drawings are used for the construction and rendering techniques such as stippling, smudge, line, appliques, and airbrushing are utilized. In addition, a unit on perspective drawings culminate the learning activities. Prerequisite: 130-212.

130-424 ARCHITECTURAL TECHNOLOGY 3 Cr. Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems. Prerequisite: 130-110.

130-433 TOOL AND DIE DESIGN 2 Cr. The study of the design and applications for jigs and fixtures for lathes and mills. The study of milling cutters, lathe tools, boring bars, and gauges for checking work, die design, and punch presses. Prerequisite: 130-311, 372-325.

130-475 PRINTING ECONOMICS 2 Cr. Estimating production costs, specification of equipment, materials inventory and control, and the study of systems which expedite graphic reproductions. Prerequisite: 130-140.

130-489 BUSINESS AND INDUSTRIAL INTERNSHIP 2-8 Cr. Off-campus work and study in an approved paraprofessional position in business and industry. Salaried appointments in area of student concentration with cooperating companies for a semester or summer session. Prerequisite: Junior standing or consent of department.

130-513 TECHNICAL RENDERING 2 Cr. The graphic representation of technical information regarding buildings, products, sales literature, and technical manuals which relates to a professional or public au-

dience by utilizing various rendering techniques, medias, and image generation processes.

130-526 BUILDING CONSTRUCTION SPECIFICATIONS 2 Cr. Principles of construction, specification, organization, and the development of basic skills of specification preparation. Demonstration of the role of specifications within the building process and the relationship of the specifications to other construction contract documents.

130-527 SITE ENGINEERING 2 Cr. Use of surveying instruments, techniques and computation to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage; soil analysis. Prerequisite: 130-110 and trigonometry.

130-528 STRUCTURAL DESIGN 3 Cr. Analysis, selection, and delineation of concrete, steel, and wood structural components and systems in buildings. Prerequisite: 372-325 or 130-291.

130-532 MECHANICAL DESIGN 4 Cr. A study of the design process. Analysis and design of machine elements including gearing, bearings, shafting, and friction devices. Prerequisites: 130-230 or 130-593, 372-325 or 130-291, 355-153 or 355-156.

130-537 MECHANICAL DESIGN DRAFTING 2 Cr. Design of a machine including: Specifications, layout, calculations, bills of material, detail and assembly drawings. Prerequisite: 130-311.

130-543 GRAPHIC ARTS PRODUCTION TECHNIQUES 2 Cr. Study in-depth of letterpress and screen process image transfer machines and associated pro-

cedures including printability of varied interceptors. Prerequisite: 130-366. (May be repeated for six credits.)

130-557 COLOR SEPARATION 2 Cr. Study of the nature of color and light. Color separation from reflected and transmission copy. Theory of filters, densitometry, and their relation to color separation. Direct and indirect photographic color separation methods. Prerequisite: 130-355 or consent of instructor.

130-592 MECHANICS OF MACHINERY I 3 Cr. The study of dynamics as applied to machinery including: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power, and energy; balancing and vibration. Prerequisites: 130-290 and 355-154.

130-593 MECHANICS OF MACHINERY II 3 Cr. Graphical and analytical analysis and synthesis of linkages, cams, and gear trains, including displacement, velocity, acceleration, and dynamic forces. Prerequisite: 130-592.

130-595 SEMINAR: (Title will reflect specific graphic and industrial communication content) 1-2 Cr. Current and projected communication methods, concepts, technologies, and innovations in graphic communications.

130-629 LAND USE PLANNING 3 Cr. Area planning; problems oriented toward design solutions of building complexes; exterior space, land use, relationships between buildings and supporting facilities. Survey of contemporary regional and city planning and its historical roots. Prerequisite: 130-325.

130-636 COMPUTER ASSISTED DESIGN PROBLEMS 2 Cr. An introduction to the relationship of the computer to drafting and plotted design, design automation, introduction to mechanical design problem analysis for computers, mathematical and simulation models for use in the solution of mechanical design problems. Prerequisites: 354-141 and 130-230.

140-270 SELECTED DRIVING TECHNIQUES 1 Cr. The purpose of this course is to prepare students who would meet the teacher certification requirements of selected driving courses offered by state governmental agencies and the National Safety Council. These selected courses are Defensive Driving, Motorcycle Operators, and School Bus Drivers offered by the National Safety Council and the Driver Improvement course offered by the Wisconsin Department of Transportation.

140-271 SAFETY, PRINCIPLES AND PRACTICES 3 Cr. Introduction to the philosophy and principles of accident prevention. School safety programs. Identification of resources and content such as motor vehicle, home, public, farm, industrial, school, recreational, and civil defense. Prerequisite: Sophomore standing.

140-375 DRIVER AND TRAFFIC SAFETY 2 Cr. Curriculum selection and use, instructional resources and materials, psychophysical and self-instructional evaluative devices will be explained. Major emphasis is placed on the classroom phase of driver education.

140-377 DRIVER EDUCATION LABORATORY METHODS AND TECHNIQUES 4 Cr. Role, aims, and objectives of laboratory programs in driver and traffic safety education are examined. Direct laboratory experiences in simulation on street behind the wheel, and multiple car driving

range will be provided for the students. Emphasis will be placed in multiple student teaching techniques. Prerequisite: 140-270.

140-378 ADMINISTRATION OF DRIVER AND TRAFFIC SAFETY EDUCATION PROGRAMS 2 Cr. The organizational and administrative function of driver and traffic safety education programs will be investigated. Special attention will be given to teacher certification, state approval forms, budget, public relations, scheduling, and evaluating specific programs.

140-574 ALCOHOL, DRUGS AND ACCIDENT PREVENTION 2-3 Cr. The role of alcohol and drugs and their relationship to accident prevention programs will be examined. The problem of alcoholism and drug addiction and present efforts for rehabilitation will be explored. Educational programs dealing with the physiological, psychological, and sociological effects of alcohol and drugs will be discussed.

140-575 BEHAVIORAL APPROACH TO ACCIDENT PREVENTION 2-3 Cr. The philosophical and theoretical basis of accident prevention efforts will be explored. The behavioral task is analyzed from the physiological, medical and physical, psychological, sociological, and culture perspective. The course will also include a critical analysis of principles and methods appropriate in identifying, understanding and modifying unsatisfactory attitudes and behavior.

140-577 DRIVER IMPROVEMENT PROGRAMS 2 Cr. The improvement of drivers through educational methodology, curriculum planning, and research. Special attention given to adult programs, mentally retarded, orthopedically handicapped, as well as the chronic violator and the acci-

dent repeater. Prerequisite: Six semester hours of course work in Safety studies.

140-580 DRIVER EDUCATION FOR THE HANDICAPPED 2-3 Cr. Emphasis will be placed upon curriculum content, instructional methods and techniques, legal implications, driving aids and financial assistance programs. The lab experience will include teaching handicapped people how to drive.

140-581 PRINCIPLES OF OCCUPATIONAL SAFETY 3 Cr. An overview of occupational accident prevention programs. Emphasis on techniques of measurement, cost of accidents, locating and identifying accident sources, psychology of occupational safety and problems of selecting corrective action. Prerequisite: Junior standing.

140-583 VOLUNTARY OSHA COMPLIANCE 2-3 Cr. This course will consist of an in-depth investigation of the Federal Occupational Safety and Health Act of 1970 and its implications towards industry's voluntary compliance with the federal regulations enforced by the Occupational Safety and Health Administration. Other areas will include Federal/State OSHA Programs and their impact on industrial operations, and will provide guidelines for systematic self-inspection and compliance procedures.

140-584 SAFETY ENGINEERING STANDARDS AND REGULATIONS 2 Cr. This course will consist of an in-depth investigation of the Federal Standards and Regulations enforced by the Occupational Safety and Health Administration. In addition, the American National Standards Institute's Standards will be reviewed along with the National Fire Protection Association's work place standards.

140-586 FIRE PROTECTION/PREVENTION 3 Cr. Behavior of fire, including chemistry, protection, prevention and control.

140-587 HUMAN FACTORS ENGINEERING 3 Cr. A survey of the areas of man-machine interface. The physiological and psychological abilities and senses of man will be examined, together with technological advances in the interface areas of control, working performance, reliability, comfort, and safety. (The emphasis will be on effective design of man and work environment as a cybernetic system.) Prerequisites: 479-110, 354-130 or consent of instructor.

140-588 CONSTRUCTION SAFETY 2 Cr. Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems.

140-589 FLEET SAFETY MANAGEMENT 2 Cr. Controlling loss associated with motor fleet operations, including selection, training, supervision of commercial drivers, as well as regulatory controls.

INDUSTRIAL MANAGEMENT

150-x97 FIELD EXPERIENCE 1 Cr.

150-x98 FIELD EXPERIENCE-AMERICAN INDUSTRY 2 Cr. Off-campus work and study in an approved position to better understand how the five environmental and 13 concepts of industry function and interrelate. Prerequisite: 150-115.

150-115 UNDERSTANDING BUSINESS AND INDUSTRY 2 Cr. An introduction to American Industry structures and concepts; history of the project. Systems for structuring knowledge. The concept structure of research.

150-150 INDUSTRIAL ORGANIZATION 2 Cr. Survey of the basic functions and interrelationships of the major subdivisions of industrial organizations.

150-200 PRODUCTION MANAGEMENT 3 Cr. The manufacturing functions of 150-150 Industrial Organization are expanded. A broad analytical "systems" viewpoint is used to develop competency in management decision making and problem solving.

150-304 PRINCIPLES OF BUSINESS 3 Cr. Studying in depth the basic managerial functions of planning, organizing, staffing, directing, and controlling, including the principles of management which have universal application to all types of organizations; nature of authority and responsibility, departmentation, line and staff relations; the enterprise manager in his social setting, comparative management, and management and the future.

150-440 PLANT LAYOUT 3 Cr. Survey and application of the principles and methods used for solving plant layout and material handling problems. Prerequisite: 150-200.

150-450 MAINTENANCE MANAGEMENT 2 Cr. The organization and management of a facilities maintenance system involving the administration of maintenance forces, maintenance of personnel, planning and scheduling of work, maintenance of basic environmental systems,

project control and cost control for maintenance operations.

150-489 BUSINESS AND INDUSTRIAL INTERNSHIP 2-8 Cr. Off-campus work and study in an approved paraprofessional position in business and industry. Salaried appointments in area of student concentration with cooperating companies for a semester or summer session. Prerequisite: Junior standing or consent of department.

150-500 ENGINEERING ECONOMY 3 Cr. Analysis of the source and application of funds, including cost control, valuation, depreciation, replacement theory, and taxation.

150-501 SEMINAR: (Title will reflect specific business or management content) 1 or 2 Cr. Current topics in business and industrial management to meet the specific needs of the students enrolled.

150-505 PRODUCTION AND INVENTORY CONTROL 3 Cr. Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling material, parts, subassemblies, and final assemblies of a manufacturing system. Prerequisites: 150-200, 354-130 or 354-530.

150-510 PRODUCTION PROCESSING 3 Cr. Production processes with special consideration to product design as related to economic production. Emphasis on factors which influence the choice and sequence of process to obtain an end product. Prerequisite: 150-200.

150-514 PRODUCTION SYSTEMS 3 Cr. The organization and operation of an

industrial company. The selection, designing, production planning, production, marketing and distribution of a product. Prerequisite: 150-115 or 150-150.

150-520 QUALITY ASSURANCE 3 Cr. Practical and statistical quality control in the design and use of Quality Assurance programs consisting of Quality Engineering; Manufacturing Quality Assurance; and Product Quality Assurance programs. Prerequisites: 150-200, 354-130 or 354-530.

150-530 MATERIAL HANDLING 3 Cr. Introduction to principles of material handling. Basic concepts of the handling function, its role in production activities and problems of handling materials in industrial settings. Prerequisite: 150-200.

150-540 TIME AND MOTION STUDY 3 Cr. Introduction to methods engineering in business and industry including improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques, and principles of motion economy. Prerequisite: 150-200.

150-570 ESTIMATING AND ANALYZING CONSTRUCTION COSTS 3 Cr. This course involves the process of estimating as analyzing material, man-hours, equipment, methods of construction, overhead, and profit and submitting these factors in the form of a bid. Prerequisite: Junior and 150-x98.

150-600 ORGANIZATIONAL LEADERSHIP 3 Cr. An overview of the supervisor's role in accomplishing organizational objectives through the management of human resources. Concepts of organizational and individual behavior serve as a foundation for the development of such su-

pervisory skills as communication, motivation, initiating change, discipline, delegation, and handling grievances. Prerequisite: Senior or graduate standing.

150-605 PRODUCTION AND INVENTORY CONTROL-PRACTICUM 2 Cr. Practical application of principles and techniques learned in 150-505 Production and Inventory Control as part of the Professional Semester - Manufacturing Laboratory. Prerequisite: 150-505.

150-620 QUALITY ASSURANCE-PRACTICUM 2 Cr. Application of principles and techniques learned in 150-520 Quality Assurance as part of the Professional Semester - Manufacturing Laboratory. Prerequisite: 150-520.

150-640 TIME AND MOTION STUDY PRACTICUM 2 Cr. Application of principles and techniques learned in 150-540 Time and Motion Study as part of the Professional Semester in the Manufacturing Laboratory. Prerequisite: 150-540.

150-650 INTRODUCTION TO OPERATIONS RESEARCH 3 Cr. Business and industrial application of operations research techniques using linear programming, decision models, and Monte Carlo methods. Problem applications in allocation, sequencing, waiting lines, and competitive strategies. Prerequisite: 150-200.

150-660 INDUSTRIAL MANAGEMENT 2 Cr. Principles and methods of analyzing and solving industrial problems. Application through case studies, management games, and special problems. Prerequisite: Senior standing.

150-670 SYSTEMS APPROACH TO CONSTRUCTION MANAGEMENT 3

Cr. The total concept of the construction industry including the contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques. Prerequisite: 150-570.

150-680 PRODUCTION MANAGEMENT-PRACTICUM 2 Cr. Principles and methods of analyzing and solving production management problems. Application of prior course work to manufacturing project in the manufacturing laboratory. Prerequisite: Permission of the instructor.

BUSINESS ADMINISTRATION

160-x98 BUSINESS ADMINISTRATION FIELD EXPERIENCE 2 Cr. Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

160-100 INTRODUCTION TO BUSINESS ADMINISTRATION 1 Cr. Basic processes which comprise the business systems, the interrelationships of these processes, and the role of the environment within which every business must function. Review of Business Administration Program relative to advisement, course sequence, and job opportunities. Prerequisite: Business administration major or instructor consent.

160-206 ACCOUNTING I 3 Cr. The theory of debit and credit; the underlying principles of the various accounting records; modern business papers; working sheets; the balance sheet and the income statement; the sole proprietorship, the partnership. Prerequisite: Sophomore standing.

160-207 ACCOUNTING II 3 Cr. A development of the basic accounting theory which is introduced in 309-206 including partnership and corporate forms of organization. The elements of branch and manufacturing accounting are included, as well as the introduction to cost accounting, budgeting and the analysis and interpretation of financial statements. Prerequisite: 160-206.

160-230 SMALL BUSINESS MANAGEMENT 3 Cr. Introduction to the various aspects of business management, especially at the level of small business. Prerequisite: Junior standing.

160-310 MANAGEMENT INFORMATION SYSTEMS 2 Cr. Improving the practice of management through the design and utilization of management information systems. An information system aids management in making, carrying out, and controlling decisions. Prerequisite: 160-304 Business Management or 150-200 Production Management.

160-318 BUSINESS LAW 3 Cr. Introduction to law, contracts, agency nature and types of negotiable instruments. Prerequisite: Junior standing or consent of instructor.

160-320 INCOME TAX ACCOUNTING 3 Cr. Principles involved in determining taxable net income, and computation of federal and state income taxes for individuals, partnerships and corporations. Prerequisite: 160-206.

160-323 RETAIL MERCHANDISING AND MANAGEMENT 3 Cr. Retail sales promotional techniques and practices with particular emphasis on display, layout, retail and cooperative advertising, mathematics of merchandising. Retail manage-

ment problems such as store location, types of goods stocked, inventory financing, credit operation, etc. Prerequisite: 160-330.

160-330 PRINCIPLES OF MARKETING 3 Cr. Retail, wholesaling, advertising, channels of distribution, cooperative marketing, pricing, marketing research, and marketing legislation from the standpoint of consumers, middlemen, and manufacturers. Prerequisite: 320-201 or 320-210.

160-331 BUSINESS PRACTICUM-MARKETING 2 Cr. An approved marketing position with Stout's Manufacturing Lab to better understand how the major elements of marketing function and interrelate. Prerequisite: 160-330, Junior.

160-334 SALESMANSHIP AND SALES MANAGEMENT 3 Cr. Basic concepts of selling, including locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining goodwill. Study of sales organizations with emphasis on recruitment, selection, training compensation, and cost control methods. Prerequisite: 160-330.

160-335 MANAGERIAL ACCOUNTING 3 Cr. Provides students majoring in general business with an understanding of the significance of accounting data without involvement in mechanical techniques. Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Prerequisite: 160-207.

160-340 BUSINESS FINANCE 3 Cr. Principles governing the planning, raising, and controlling of short and long term funds for a business enterprise, large or

small corporate or noncorporate. Financial aspects of promotion and organization, sources of financing and the administration of income; failure and reorganization. Prerequisite: 160-207.

160-341 BUSINESS PRACTICUM-FINANCE 2 Cr. An approved finance position with Stout's Manufacturing Lab to better understand how the major elements of finance function and interrelate. Prerequisite: 160-340, Junior.

160-351 BUSINESS PRACTICUM-SUPERVISION 2 Cr. An approved supervisory position with Stout's Manufacturing Lab to better understand how the major elements of supervisor function and interrelate. Prerequisite: 479-582, Junior.

160-355 PRINCIPLES OF RISK MANAGEMENT 2 Cr. Basic principles of risk and insurance and their applications to business management and personal affairs. Analysis of concepts and methods of handling risks; the insurance institution; fundamentals of insurance contracts; major property and liability insurance contracts; life and health insurance and government regulation. Prerequisite: Junior standing.

160-365 PRINCIPLES OF REAL ESTATE 2 Cr. Real estate law, importance of real estate, nature of real property, interests in real estate, historical background, estates, how created, types of ownership, descriptions, real estate contracts, transfer of title, title records, lease and zoning.

160-370 PRINCIPLES OF ADVERTISING 3 Cr. A survey course presenting the psychological, social, and economic aspects of advertising. Advertising is presented in its relationship to the other factors of distribution with emphasis on the place of ad-

vertising in modern business. Prerequisite: 160-330 or consent of instructor.

160-400 INDUSTRIAL FINANCE 4 Cr. Estimating and analyzing financial needs by studying the sources of financing, basic accounting principles, and time rate of money. Not for majors in Business Administration. Prerequisite: Junior standing.

160-410 MANUFACTURING COST ANALYSIS 3 Cr. Introduction to principles of accounting, and concepts and techniques of cost analysis. Emphasis placed on application of cost information. Prerequisite: 160-206 or 160-400.

160-461 BUSINESS PRACTICUM-MANAGEMENT 3 Cr. An approved management position with Stout's Manufacturing Lab to better understand how the major elements of management function and interrelate. Prerequisite: 160-331 or 160-341, or 160-351, Senior.

160-489 BUSINESS AND INDUSTRIAL INTERNSHIP 2-8 Cr. Off-campus work and study in an approved paraprofessional position in business and industry. Salaried appointments in area of student concentration with cooperating companies for a semester or summer session. Prerequisite: Junior standing or consent of department.

160-573 LEGAL ASPECTS OF CONSTRUCTION 3 Cr. An examination of various contracts and documents employed in the building construction industry, and analysis of each including the rights of the parties. A study of labor relations involved in the industry such as law and labor, legality of strikes, picketing and boycott activity, its legality as to economic pressure, unfair labor practices, employer and union,

rights and responsibilities of the supervisor and the worker.

160-601 LEGAL ENVIRONMENT OF BUSINESS 3 Cr. Economic concentration lessening competition or creating a monopoly and maintaining competition; changing relationships between government and industry, emphasizing regulatory legislation, administrative agencies, national policies, and social control.

160-679 MARKETING RESEARCH 3 Cr. Experimental and survey techniques used to secure information necessary for successful marketing such as who buys what, when, where, how and why. Primary and secondary sources of information examined. Data collection, compilation, and analysis methods reviewed plus effective communication of conclusions and recommendations to management. Prerequisite: 320-325, 160-330.

160-690 ADMINISTRATIVE AND BUSINESS POLICIES 3 Cr. Integrates the student's previous studies in business, and further develops his ability to deal more effectively with business problems by learning and applying the scientific approach to decision making. Includes business cases on policy formulation and administration, involving the functions of manufacturing, marketing, finance, accounting, personnel, and public relations. Prerequisites: Senior standing, 160-330, 160-340.

MATERIALS AND PROCESSES

170-101 PROCESSES: CONCEPTS 3 Cr. Conceptual study, including application, of the area of industrial processes gen-

erated by the basics of growing, extraction, conditioning, and combining.

170-202 METALS 2 Cr. Introduction and orientation to the metals field. Equal time in machine shop, welding, foundry, and sheet metal. Exploratory experiences are provided in the four areas with fundamental operations and related technical information.

170-205 DESIGN FOR INDUSTRY 2 Cr. Industrial research and product development experiences focusing on problems related to manual, semi-automatic and automatic production utilizing various materials and processes will be encountered in this course. The development and application of various systems for selection of materials and processing will be studied. Prerequisite: 170-101.

170-209 GENERAL FINISHING 2 Cr. Technical information and application of finishes to various materials. Color theory, spraying, baking, drying, polishing, spot finishing, and refinishing. Prerequisite: 170-101 or 170-202.

170-210 MATERIALS OF INDUSTRY 3 Cr. Characteristics and processing requirements of common industrial materials. The four material families will be investigated in relation to: material properties, property modifications, processing characteristics and testing criteria. Lab activities will involve material identification, selection, utilization and testing. Not available for credit to students who have taken 170-312. Course is intended for General Business Administration students.

170-222 INDUSTRIAL CERAMICS 3 Cr. An overview of the industrial ceramics field: glass, construction materials, abrasives, whiteware, refractories, enamels,

electronic, and nuclear. Laboratory work to correlate applications, material properties and production methods.

170-230 MACHINE SHOP 2 Cr. Basic experiences on the engine lathe, drill press, milling machine, grinder and shaper. Hand tools and related information appropriate to fundamental operation are given. Prerequisite: 170-101 or 170-202.

170-240 BASIC WOODWORKING 1 Cr. Fundamental concepts of elementary woodworking with emphasis on hand tools, hand operations and basic machines. Related topics such as fasteners and wood joints.

170-241 MACHINE WOODWORKING 2 Cr. Technical information of wood industry materials and equipment. Job planning, organizing and preparation. Fundamental principles of wood and allied material processing. Prerequisite: 170-101

170-250 PLASTICS I 2 Cr. A study of the materials and processes of the plastics industry. Technical information on the characteristics and properties of thermoplastic and thermosetting materials and processing equipment. Prerequisite: 170-101 or 170-202.

170-260 SHEET METAL 2 Cr. Fundamental machine and hand tool operations, soldering, pattern development, and related information. Discussions on materials equipment and supplies. Prerequisite: 170-101 or 170-202.

170-270 LIGHT BUILDING CONSTRUCTION 2 Cr. A study of terminology, materials, tools, and equipment used in the construction industry with emphasis

on residential and small commercial structures. Prerequisite: 170-101 or 170-202.

170-280 PACKAGING FUNDAMENTALS 2 Cr. An introduction to the packaging industry. The relationship to marketing and consumer behavior; its control through legal and industrial regulations, the functions as part of the larger organization; packages and their functions, role of the professional packaging manufacturer.

170-301 TECHNOLOGY-RESOURCES-ENVIRONMENT 2 Cr. A problem solving course which will show our present and probable future position with respect to known available resources. The relationship between rate of resource use and environmental degradation will be demonstrated, and possible consequences of our present resource consumption patterns will be considered. A pursuit of ecologically sound resource consumption patterns, more appropriate to the presently known available resources will be conducted.

170-304 INDUSTRIAL CRAFTS 2 Cr. Study of craft industries including tool, processes, products from leather, fiber, metal, and wood material. Laboratory work in the use of above materials.

170-307 DIMENSIONAL METROLOGY 2 Cr. A study of the science of measurement, including all aspects of measurement from mechanical systems, such as micrometers, to systems using physical properties such as optical flats—scales, micrometers, verniers, gage blocks, optical flats, and lasers. Prerequisite: 170-101 or 170-202.

170-308 SURFACE COATINGS AND TREATMENTS 2 Cr. Application of color theory, color mixing, painting, grain-

ing, stenciling, marbling, mottling, strippling, texturing, dry wall construction, and interior design. Prerequisite: 170-209.

170-312 MATERIALS 3 Cr. Materials families and classification schemes, properties and characteristics and material selection and identification techniques; properties and characteristics of material separation and resource recovery techniques; quality control of recycled resources for raw materials production. Prerequisite: 170-101 or 170-202 or permission of instructor.

170-313 WOOD TECHNOLOGY 3 Cr. Forest management, structure of wood, properties of wood, defects of wood, modifying wood, bonding wood, testing procedures and trends in wood based industries. Prerequisite: 170-101.

170-315 PACKAGING MATERIALS 3 Cr. A study of the origin, composition, properties, and applications of packaging materials. Lab problems relating to standard materials testing methods. Prerequisite: 170-280.

170-331 MACHINE SHOP 2 Cr. Advanced shop practice; sharpening of lathe tools, twist drills, milling cutters, taper turning, grinding externally and on flat surfaces. Gear cutting on milling machine. Heat treating and layout techniques. Prerequisite: 170-230 or consent of instructor.

170-333 MACHINE SHOP III 2 Cr. Spiral milling, tool making, and cutter grinding, cylindrical grinding, maintenance. Prerequisite: 170-331 or consent of instructor.

170-344 CABINET WORK I 2 Cr. Problem solving, testing of materials, and ad-

vanced technical information. Construction of a major cabinetmaking project. Prerequisite: 170-241.

170-346 GENERAL WOODWORKING 2 Cr. General unit shop organization, upholstery and wood turning. Experience in organization and presentation of content in woodworking as it relates to the total industrial arts program. Prerequisite: 170-101.

170-357 PATTERNMAKING-FOUNDRY PRACTICE 3 Cr. Patterns for metal castings are designed, constructed, and molded. Foundry practices utilizing various patterns and foundry techniques are experienced in the production of metal castings. Prerequisite: 170-101 or 170-202.

170-365 WELDING I 2 Cr. Fundamentals of electric arc and oxy-acetylene welding processes in the flat position; manufacture and handling of gases; selection and types of equipment; routine maintenance; types of electrodes, coatings applications. Prerequisite: 170-101 or 170-202.

170-370 COMMERCIAL BUILDING 2 Cr. A study of structural building systems and related mechanical installations. Prerequisite: 170-270.

170-372 HEATING AND AIR-CONDITIONING 3 Cr. Principles of heating, heat energy, heating system, calculation of heating loads, heating drawings, burners, and control systems.

170-380 PACKAGING SYSTEMS 3 Cr. The study of packaging from the design phase through production. Lab work on structural design, sample making and package evaluation. Prerequisite: 170-280.

170-385 PACKAGING MACHINERY 3 Cr. A study of measuring, forming, filling, sealing, cartoning, casing, uncasing, and labeling equipment as they apply to the functional capabilities of speed, material characteristics, carton size and operating characteristics.

170-401 SOLID WASTE TECHNOLOGY 3 Cr. A study of solid wastes and the technology available for processing them, with emphasis on recovering some economic benefits.

170-403 SECONDARY RESOURCE SYSTEMS MANAGEMENT 3 Cr. Economic, social, legal, political, and administrative aspects of resource recovery/waste disposal; analysis of resource recovery systems; identification of current issues, needs and policies; assessment methodologies; public and private sector differences and policy approaches. Prerequisite: 170-401 or approval of instructor.

170-460 METAL FORMING AND FABRICATION 2 Cr. Cabinet work involving direct layout with extensive use of the shears, cornice and press brakes, and spot welders. Discussion on forming methods and equipment including rubber forming, presses, roll forming, high energy rate forming, and notching. Selection and purchasing of supplies. Prerequisite: 170-260 or consent of instructor.

170-480 PACKAGING DESIGN AND EVALUATION 3 Cr. Discussions on the chemical and physical protection problems. Package design with reference to materials, structure, graphics, and regulations. Package evaluation in terms of shock and vibration forces. Practical applications of evaluation using electronic instrumentation. Prerequisite: 170-380.

170-489 BUSINESS AND INDUSTRIAL INTERNSHIP 2-8 Cr. Off-campus work and study in an approved paraprofessional position in business and industry. Salaried appointments in area of student concentration with cooperating companies for a semester or summer session. Prerequisite: Junior standing or consent of department.

170-504 COMPUTER AIDED MANUFACTURING 3 Cr. Justification for and application of computer assistance in the manufacturing process. Machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping are all covered in relation to the total manufacturing operation. Prerequisites: 354-141, 170-202 and 170-101 or consent of instructor.

170-505 ROBOTICS 2 Cr. Capabilities of and justification for industrial robots. Students will work with robots and simulators in realistic situations involving processing, assembly and materials handling. Prerequisite: 354-141, 170-202 and 170-101 or consent of instructor.

170-506 MAINTENANCE OF PROCESSING EQUIPMENT 3 Cr. Recondition hand and power woodworking and metalworking equipment. Identify and correct malfunctions commonly encountered with such equipment. Information on manufacturers performance specifications, technical data on cutting tool specifications, and preventive maintenance schedules. Criteria for the selection of hand tools, power equipment, measuring instruments, and safety devices.

170-507 METRIC AMERICA 1 Cr. An in-depth study of the international (SI) metric system with special emphasis on SI terms, units, standards, and the development of concepts of the metric units of

mass volume, and length. Metric measuring instruments will be used, and methods of teaching the SI metric system will be discussed.

170-515 METALLURGY 3 Cr. Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys. Prerequisite: 311-115.

170-537 NUMERICAL CONTROL IN MANUFACTURING I-3 Cr. An investigation of numerical control of machine tools, justification of numerical control, types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting. A working knowledge of the basic machining processes is recommended. Prerequisite: 170-101 or 170-202.

170-550 PLASTICS II 2 Cr. Technical information relating to plastic materials and to tooling design for plastics. Product development with emphasis on experimental design in tooling and quality control. Prerequisite: 170-250.

170-559 FOUNDRY SEMINAR I-2 Cr. Metallurgy principles relating to casting processes; sand testing, phasing diagrams, fluid mechanics, gates, risers, gating systems, inspection, non-destructive testing.

170-560 AIRCRAFT CONSTRUCTION WORKSHOP 3 Cr. A workshop in which every student participates in the construction of a full scale aircraft. A thorough study of proved plans precedes individual completion of assignments in the fabrication of parts, assembly, rigging, power-

ing, finishing of an aircraft. Prerequisite: Degree held in industrial education or permission of instructor.

170-565 WELDING II 2 Cr. Advanced work in arc and oxy-acetylene welding techniques; vertical, horizontal, overhead positions; destructive and non-destructive testing; MIG and TIG welding processes; oxy-acetylene machine and air carbon arc cutting. Prerequisite: 170-365.

170-570 MECHANICAL SYSTEMS 2 Cr. Plumbing and electrical requirements for residential and commercial buildings. Prerequisite: 170-370.

170-575 BUILDING CONSTRUCTION PRACTICUM 2-4 Cr. Technical information and problems involving construction and the actual development of a light residential structure. Prerequisite: 170-270.

170-580 PACKAGING DEVELOPMENT 3 Cr. Applications of the packaging functions. Taking a product and developing its complete packaging system from final production of the product on through until it reaches the ultimate consumer. Prerequisite: 170-480.

170-585 PACKAGING SEMINAR 2 Cr. Discussions on the current packaging problems or developments. Choice of problems based upon student interests and current issues. Prerequisite: Junior or senior in packaging.

170-595 SEMINAR: (Title to reflect specific materials and processes content) I-2 Cr. A seminar designed to upgrade the effectiveness of teachers or secondary school materials and processes content through presentation/discussion/laboratory experience.

170-637 NUMERICAL CONTROL II: PROGRAMMING FOR CONTINUOUS PATH CONTROLS 3 Cr. Application of the computer for generating programs to machine curved, nonsymmetrical surfaces. Involves mathematical concepts of N/C. Interpolation of surfaces between points by straight line or logarithmic methods, writing computer programs and proving problems. Field trips to industries using numerical control equipment. Prerequisite: 170-537. Background in machining or substitution. Computer programming recommended.

INDUSTRIAL TEACHER EDUCATION

190-160 INTRODUCTION TO INDUSTRIAL EDUCATION 2 Cr. An introduction to current programs, facilities, and opportunities in teaching industrial arts, vocational, technical and adult education. Students develop personal goals, complete program plan sheets, visit schools and work as teacher aides.

190-205 METHODS OF TEACHING INDUSTRIAL EDUCATION 2 Cr. Study of teaching methods in use in youth and adult shop classes. Instruction planning; lesson presentations with video tape equipment; methods of organization and management; instruction aids; professional ethics. Prerequisite: 190-160.

190-390 LABORATORY AND CLASSROOM MANAGEMENT IN INDUSTRIAL EDUCATION 2 Cr. An overview of principles of facility planning and equipment selection for a variety of curriculum needs. Laboratory and classroom management techniques will be presented with an emphasis on safety requirements and managing various delivery systems used in con-

temporary programs. Prerequisite: 190-160 Introduction to Industrial Education.

190-404 CURRICULUM DEVELOPMENT 5 Cr. Development of an orderly procedure for the identification of concepts; generalizations and instructional units to be used in teaching. Course outlines, analysis of content, lesson planning, evaluation, management. Prerequisite: 190-205, 421-303.

190-405 CURRICULUM DEVELOPMENT IN INDUSTRIAL EDUCATION 2 Cr. Study of curriculum terminology and methods of selecting and organizing content for industrial education courses. A course of study and individualized instruction will be developed by the student for use in teaching a class in industrial arts or vocational education. Prerequisite: 190-160 and 190-205.

190-406 INSTRUCTIONAL EVALUATION IN INDUSTRIAL EDUCATION 2 Cr. Designed for industrial arts and vocational/technical teachers in evaluating program and student performance. Emphasis on basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (including students with special needs). Student evaluation of instructor and instruction. Prerequisite: 190-404 and 190-205.

190-408 STUDENT TEACHING 8 Cr. Directed teaching and community experiences in selected off-campus schools. Prerequisite: 190-404, overall grade point average of 2.25. Satisfactory health, speech and English.

190-488 INTERNSHIP TEACHING 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns

receive a license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 190-404.

190-505 SPORT AVIATION SEMINAR
1-3 Cr. Organizational patterns, available alternatives, and recommended procedures for incorporating full-scale aircraft construction in schools.

190-533 SHOP PLANNING AND EQUIPMENT SELECTION 2 Cr. Principles of school shop planning including equipment selection and placement, plus selection, care, arrangement of supplies. Prerequisite: 190-404 or equivalent.

190-600 RATIONALE FOR AMERICAN INDUSTRY 2 Cr. A study of the place and function of American Industry in the total school curriculum.

190-606 LEARNING ACTIVITIES IN INDUSTRIAL AND VOCATIONAL EDUCATION 2 Cr. A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.

190-631 FIELD TRIPS TO INDUSTRY
1-2-3 Cr. Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught.

190-637 SCHOOL SHOP ORGANIZATION AND MANAGEMENT 2 Cr. Experience in administration, project development and teaching problems associated with industrial education. Prerequisite: 190-205.

190-638 COURSE CONSTRUCTION 2 Cr. Directed experience in curriculum development and course of study construction for industrial education teachers. Experiences in developing behavioral objectives and in the development of instructional materials which will lead to the realization of these objectives. A vehicle of instruction will be the development of a course of study, instructional package, and/or unit of instruction.

195-300 TECHNOLOGY 3 Cr. An overview of the development, levels, types, processes, influences, and control of technology. Designed as an introductory experience to help students to grasp the significance of technology in their lives and its effect upon the decision-making processes in a technological society.

195-500 EVOLUTION OF TECHNOLOGY 2 Cr. In studying contemporary technology there is a need to understand how things got to where they are, and where they might go from here. This will provide a broad look at relationships between mechanical and social inventions and the role technology plays in human and institutional behavior.

MARKETING AND DISTRIBUTIVE EDUCATION

196-201 INTRODUCTION TO DISTRIBUTIVE EDUCATION 2 Cr. The

field of distributive education; historical development, role in vocational education, career opportunities, certification requirements, and current trends.

196-202 ORGANIZATION AND ADMINISTRATION OF DISTRIBUTIVE EDUCATION CLUBS OF AMERICA 3 Cr. Organization of a DECA chapter, the administration of activities, and the design of competitive events, including "Program of Work" development, school and model store organization, and integration of DECA into the curriculum. Prerequisite: 196-201.

196-301 METHODS IN DISTRIBUTIVE EDUCATION 4 Cr. Methods and materials of distributive education: projects, individualized instruction, programmed instruction, demonstration, instructional resource materials, and laboratory equipment. Prerequisite: 196-201.

196-401 DISTRIBUTIVE EDUCATION CURRICULUM 3 Cr. Developing distributive education curriculum for secondary and post-secondary programs. Prerequisite: 196-301.

196-408 STUDENT TEACHING—DISTRIBUTIVE EDUCATION 8 Cr. Directed teaching and community experiences in selected off-campus schools. Prerequisites: 196-201, 196-301, 196-401 and 199-560.

196-501 DISTRIBUTIVE EDUCATION PROJECT-MODEL STORE SIMULATION 3 Cr. Designed to develop methods, techniques, questions, activities and resources that center around teaching distributive education via the project method or model store simulation. Prerequisite: 196-201.

196-555 MARKETING AND DISTRIBUTIVE EDUCATION SEMINAR 2-3 Cr. Designed to update Marketing and Distributive Education undergraduates and graduates (teacher-coordinators) on work experience, new curriculum, student organization competencies, coordination techniques, special needs, and Distributive Education related projects. Will be used to in-service high school teacher-coordinators and VTAE marketing teachers.

VOCATIONAL EDUCATION

199-501 PRE-SERVICE WORKSHOP FOR VOCATIONAL EDUCATORS 1 Cr. Introduction to the basic concepts of teaching courses in Wisconsin VTAE schools.

199-502 PRINCIPLES OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION 2 Cr. Philosophy, organization and administration of vocational and adult education in the nation with special attention given to the Wisconsin program.

199-534 TASK ANALYSIS 2 Cr. Analysis techniques utilized in curriculum development. Emphasis on task analysis and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising vocational curriculum or job training programs.

199-546 SEMINAR: (TITLE TO REFLECT SPECIFIC VOCATIONAL EDUCATION CONTENT) 1, 2, or 3 Cr. Current topics in vocational, technical and

adult education with application for personnel in the field. Prerequisite: Consent of instructor.

Cr. A competency based and individualized approach to principles of course construction for vocational educators. Prerequisite: 199-501.

199-550 INTRODUCTION TO INDUSTRIAL TRAINING 2 Cr. Introduces philosophy and career opportunities in industrial training, status of training programs, training curriculum and program development, training methods and evaluation, and an overview of training facilities.

199-640 INSTRUCTIONAL EVALUATION IN VOCATIONAL EDUCATION 2 Cr. A competency based individualized approach to instructional evaluation for vocational educators.

199-560 COOPERATIVE OCCUPATIONAL EDUCATION PROGRAMS 2 Cr. Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. Prerequisite: 199-502.

199-674 ADULT EDUCATION 2 Cr. Philosophy and history of adult education movement in the United States. Technique of teaching adults including psychological factors, methods, adult interests and characteristics.

199-605 METHODS OF TEACHING VOCATIONAL EDUCATION 2 Cr. A competency based and individualized approach to methods of teaching vocational education. Prerequisite: 199-501.

HOME ECONOMICS

199-608 ISSUES IN VOCATIONAL, TECHNICAL AND ADULT EDUCATION 2 Cr. An in-depth study of contemporary issues affecting vocational, technical and adult education. Possible solutions or alternatives will be proposed.

INTERDEPARTMENTAL

199-611 INDIVIDUALIZED INSTRUCTION IN PRACTICAL ARTS AND VOCATIONAL EDUCATION 2 Cr. This course in individualizing instruction offers an alternative to conventional methods, organization and evaluation of teaching. Especially helpful for teachers in vocational education and the practical arts.

200-295 CAREER EXPLORATION IN HOME ECONOMICS 1 Cr. An analysis of the career expectations and developmental needs of the individual and the organizations/institutions in home economics.

199-638 COURSE CONSTRUCTION FOR VOCATIONAL EDUCATORS 2

200-395 ISSUES IN HOME ECONOMICS I-2 Cr. Issues related to home economics that people encounter as they strive to maximize the quality of their lives.

HUMAN DEVELOPMENT AND FAMILY LIVING

212-100 INTRODUCTION TO EARLY CHILDHOOD PROGRAMS 1 Cr. Introduction to history and types of programs for young children and staff requirements in early childhood professions.

212-101 INTRODUCTION TO CHILD DEVELOPMENT AND FAMILY LIFE 1 Cr. Introduction to the fields of child development and family relationships as an intrinsic part of home economics. Occupational opportunities in programs serving families and children.

212-124 CHILD DEVELOPMENT 1 3 Cr. A developmental study of the child from conception through adolescence, including physical, intellectual, social and emotional growth. Observation required.

212-160 LEARNING ENVIRONMENTS FOR YOUNG CHILDREN 1-2 Cr. Establishment and maintenance of safe and healthy learning environments for young children. Credit determined by pre-assessment.

212-161 FACILITATING PHYSICAL AND INTELLECTUAL COMPETENCE IN YOUNG CHILDREN 1-2 Cr. Methods of facilitating physical and intellectual competence in young children. Credit determined by pre-assessment.

212-162 FOSTERING SELF GROWTH IN YOUNG CHILDREN 1-2 Cr. Building self concepts and individual strengths in young children. Credit determined by pre-assessment.

212-163 ADULT-CHILD INTERACTION 1-2 Cr. Organizing and sustaining the positive functioning of children and adults in a learning environment. Credit determined by pre-assessment.

212-164 COORDINATION OF HOME AND CENTER CHILD-REARING PRACTICES 1-2 Cr. Coordination of home and center child-rearing practices and expectations. Credit determined by pre-assessment.

212-165 SUPPLEMENTAL SERVICES COORDINATION 1-2 Cr. Carrying out supplementary responsibilities related to children's programs. Credit determined by pre-assessment.

212-167 CURRICULUM DESIGN AND IMPLEMENTATION FOR YOUNG CHILDREN 1-2 Cr. Methods of designing and implementing curriculum for young children.

212-168 FOSTERING LANGUAGE DEVELOPMENT IN YOUNG CHILDREN 3 Cr. Methods and techniques of fostering language development in young children.

212-204 TEACHING/LEARNING STRATEGIES: EARLY CHILDHOOD EDUCATION 5 Cr. An introduction to early childhood education, program management, classroom arrangement, guidance principles, sensory stimulation, enhancement of self, and creative expression with young children. Prerequisites: 212-264 and 212-124.

212-235 CHILD DEVELOPMENT LABORATORY 1 Cr. (Repeatable) Observation and/or participation in an early childhood program. May be repeated for

different experiences. Prerequisite: 212-124.

presentation of teaching-learning experiences for children in early learning situations. Prerequisite: 212-204.

212-250 FAMILY RELATIONSHIPS I 3 Cr. Dynamics of social-psychological forces affecting family interaction. Explorations of courtship, husband-wife, parent-child relationships.

212-342 CREATIVE ACTIVITIES FOR YOUNG CHILDREN 3 Cr. Curriculum, methods and materials, related to music, art, and creative movement activities for the young child. Prerequisite: 212-124 or 212-264.

212-251 EARLY YEARS OF MARRIAGE 1 Cr. Presentation and evaluation of adjustments, goals and processes of the early years of marriage.

212-350 FAMILY RELATIONSHIPS II 3 Cr. A study of the family with emphasis on environmental factors significant in marriage and family relationships. Prerequisite: 212-250.

212-264 CHILD GUIDANCE 2 Cr. Study of principles relevant to guidance of children. Evaluation of literature and application of studies to children. Observation experiences in the study of young children.

212-351 DEATH AND THE FAMILY 1 Cr. Presentation and discussion of current literature concerning how families deal with the death of a member. In particular, this course is oriented toward how adults can aid children to cope with the death of a family member, but it is also concerned with how other members of the family deal with the death of older as well as younger family members.

212-265 CHILD GUIDANCE PRACTICUM 1 Cr. Supervised participation in the Child and Family Study Center, or similar center, with emphasis on guidance techniques and understanding of children. Prerequisite: 212-264.

212-352 PARENTHOOD 1 Cr. Presentation and evaluation of current knowledge concerning parenthood. Effects of parenthood on parents.

212-303 CURRICULUM I: LANGUAGE ARTS AND SOCIAL SCIENCES IN EARLY CHILDHOOD EDUCATION 2 Cr. Development of methods and techniques necessary for teaching language arts and social studies to young children with particular emphasis placed on effective social and communications skills and experiences. Prerequisite: 212-204.

212-407 PARENT EDUCATION/INVOLVEMENT 2 Cr. A study of parent groups, the training of parent-group leaders, a survey of the literature in this field. Practicum with parent groups. Prerequisite: 212-264.

212-333 CURRICULUM II: SCIENCE AND MATHEMATICS IN EARLY CHILDHOOD EDUCATION 2 Cr. Directed study for the application of skills in order to teach mathematics and science concepts appropriate for early childhood education, including organization and

212-408A STUDENT TEACHING IN PRESCHOOL PROGRAMS 4 Cr. Directed teaching and community experience in selected early childhood centers. Prerequisite: 212-333.

212-408B STUDENT TEACHING IN KINDERGARTEN 4 Cr. Directed teaching and community experience in selected kindergartens. Prerequisite: 212-303.

212-409 CLINICAL SEMINAR IN PRESCHOOL PROGRAMS .5 Cr. Seminar-concurrent-with student teaching experience in the Child and Family Study Center or other preschool program.

212-411 CLINICAL SEMINAR IN KINDERGARTEN EDUCATION .5 Cr. Seminar held concurrently with student teaching in the kindergarten.

212-420 THEORIES OF EARLY CHILDHOOD EDUCATION 2 Cr. Evolution of early childhood education, theories and principles on which current programs are based, and development of individual philosophy. Prerequisite: 212-408A.

212-433 READING IN EARLY CHILDHOOD EDUCATION 2 Cr. A study and evaluation of current philosophies, methodology, and materials in the teaching of reading with special emphasis on readiness activities and beginning reading in early childhood. Prerequisite: 212-333.

212-451 DIVORCE 1 Cr. Evaluation of the fact of divorce and divorce trends as a part of the family system in America. Prerequisite: 212-250.

212-488 INTERN TEACHING 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 212-333.

212-524 CHILD DEVELOPMENT II 3 Cr. An empirical study of the physiological, intellectual, social and emotional development of children. Prerequisites: 212-124 and 212-264.

212-530 ADULTHOOD AND THE FAMILY 3 Cr. Study of adults in the family context during the early and middle years. Prerequisites: 212-124 and 212-324.

212-535 SEMINAR ON SELF-GROWTH 2 Cr. A seminar based on a study of theories of the self. Exploration of selected aspects of self-development and actualization. Prerequisite: 212-324 or 212-350.

212-541 HOME BASED PROGRAMS IN EARLY CHILDHOOD EDUCATION 1 Cr. Planning, supervising, and implementing a home intervention program for young children and their families.

212-545 PROGRAMMING FOR EARLY CHILDHOOD: EXCEPTIONAL EDUCATIONAL NEEDS 2 Cr. Program development and implementation for preschool mentally handicapped children. Prerequisite: Consent of department.

212-553 DUAL CAREER FAMILIES 1 Cr. The dual career marriage as a form of family life; benefits and problems encountered.

212-554 THE SINGLE PARENT FAMILY 1 Cr. Description, including statistical trends, of single-parent families, and problems involved.

212-570 SINGLEHOOD 1 Cr. Understanding of experiences of singles and sin-

glehood as a phase in the life cycle and as a life-style in contemporary society. Prerequisite: 212-250.

212-580 FUTURE OF THE FAMILY 1
Cr. Evaluation of experimental and utopian forms of the family and study of the future of the family.

212-581 DYNAMICS OF MARITAL INTERACTION 2 Cr. Patterns of husband-wife power distribution, task differentiation, decision making, communication, role adaptation, and marital satisfaction over the family life cycle. A theoretical analysis of marital behavior within the family as a social system. Prerequisite: Consent of instructor.

212-590 FAMILY RESEARCH AND METHODOLOGY 3 Cr. Analysis of family theory, research methodology, and selected topics in family relations. Prerequisites: 212-250 Family Relationships I and 212-350 Family Relationships II.

212-595 SPECIAL TOPICS IN HUMAN DEVELOPMENT 1-2 Cr. Study of special topics in human development: 1-2 credits, repeatable for different topics. Prerequisite: Junior standing (paper or colloquium required for graduate students).

212-598 AMERICAN STUDY TOUR IN CHILD DEVELOPMENT 2 Cr. Study tour of child development centers. Discussions and lectures by leaders in the field of child development. Prerequisite: Consent of instructor.

212-601 CHILD AND FAMILY LAW 3
Cr. The legal issues affecting children and families. Prerequisites: 212-250, 212-350, junior standing.

212-607 PARENT COUNSELING 2 Cr. Various approaches and techniques of working with parents. Observation and experience with problems parents face in childrearing. Prerequisites: 212-124 and 212-264.

212-610 FAMILY IMPACT SEMINAR 3 Cr. The content, methods and process of assessing the impact of public policy on children and families. Prerequisites: 212-250, 212-350, 375-510 or permission of instructor.

212-624 ADVANCED CHILD STUDY 3
Cr. A study of principles and review of literature pertaining to children. Prerequisites: 212-124 and 212-264.

212-626 SPECIAL TOPICS IN THE STUDY OF FAMILY LIFE 1-3 Cr. A review of programs and literature related to family life with opportunity for individual study of problems of personal or professional interest. Prerequisite: 212-350.

212-637 SEMINAR IN CHILD DEVELOPMENT 2 Cr. Exploration in depth of special problems and aspects in child development field with preference given to student's interest. Prerequisite: Consent of instructor.

212-638 CHILD ABUSE AND NEGLECT 2 Cr. Study of child abuse and neglect as it affects the abused/neglected child and the abusing/neglecting family. Means of coping with family and social problems are discussed. Prerequisite: C.D. I and F.R. I or F.R. I or by permission of instructor.

212-650 INTRODUCTION TO MARRIAGE AND FAMILY THERAPY 3 Cr. Conceptual frameworks and ap-

proaches to marriage and family counseling. Prerequisite: Consent of instructor.

212-651 MARRIAGE AND FAMILY THERAPY SEMINAR 3 Cr. The understanding of application of basic counseling techniques to premarital, marital, family and couples-group counseling under supervision of professional marriage and family counselor. Prerequisite: 212-650 or consent of instructor.

212-652 FATHERHOOD 1 Cr. Critical issues surrounding the role of the father in today's society. Prerequisite: 212-250 Family Relations I or 212-124 Child Development I.

212-653 RELATIONSHIP COMMUNICATION TRAINING 2 Cr. Communication theories and findings will be applied to the area of marriage and family relationships. It will involve an intensive examination of the Minnesota Couple's Communications Program. Prerequisite: Consent of instructor. Preferably, but not necessarily, have premarital or marital partner with.

212-660 CURRENT SEX RESEARCH 1 Cr. Overview and evaluation of current research concerning human sexual behavior and attitudes. Prerequisite: 212-250.

212-664 SPECIAL TOPICS IN EARLY CHILDHOOD CURRICULUM 1-3 Cr. Philosophy and methodology of Early Childhood Education with emphasis on problems confronting teachers in this area. Prerequisite: 212-303.

212-665 ADMINISTRATION OF EARLY CHILDHOOD EDUCATION PROGRAMS 2 Cr. A study of program organization, program design, staffing, li-

censing, certification, equipment and facilities for operating Early Childhood Education programs. Field trips required. Prerequisite: 212-408B.

212-666 FAMILY PLANNING 1 Cr. Factors influencing family planning and the knowledge and services which enable individuals to effectively practice family planning. Prerequisite: One undergraduate course in Family Relations.

212-680 THE AGING PERSON 2 Cr. Study of the characteristics and needs of aged members of the society with emphasis on the intergenerational relationships of family members.

212-685 SEMINAR ON THE CULTURALLY DISTINCT CHILD AND FAMILY 3 Cr. Study of problem, needs, related research and current trends to assist the disadvantaged child and family toward fuller actualization of potentialities for self and society. Prerequisite: 212-324 or 212-350.

212-690 DEATH EDUCATION AND COUNSELING IN FAMILIES 2 Cr. Overview and evaluation of death and dying theory. Research, practice and application in education, and in individual and family counseling. Prerequisites: 212-351 or consent of instructor.

212-693 CHILD DEVELOPMENT FAMILY LIFE PRACTICUM 4-8 Cr. Practicum experiences in community-based child development and/or family life agencies and programs. Approval of instructor.

CLOTHING AND TEXTILES

214-109 APPLIED DESIGN FOR FAMILY LIVING 2 Cr. Identification and application of design elements and principles to specific areas of Home Economics.

214-110 PRINCIPLES OF APPAREL DESIGN 1 Cr. A study of the elements and organization of design as they relate to contemporary apparel for men and women.

214-120 INTRODUCTION TO APPAREL, TEXTILES AND MERCHANDISING 2 Cr. Introduction to the field of fashion merchandising with an emphasis on the professional development, personal qualities, professional publications and the standardization of ready-to-wear garments.

214-140 TEXTILES 3 Cr. Fibers, yarns, fabric construction, finishes, and design as applied to the selection of clothing and household fabrics.

214-225 CLOTHING AND TEXTILE INDUSTRY 3 Cr. The clothing and textile industry, its organization, promotion methods, and the interrelationship of the major factors of industry and its markets. Prerequisite: 214-120.

214-227 BASIC MERCHANDISING 3 Cr. Merchandising in department and speciality stores, especially apparel, soft goods, and other fashion related items. Prerequisite: 214-120.

214-266 APPAREL CONSTRUCTION 3 Cr. A study of apparel construction theory, principles of fitting and their applica-

tion to the construction of garments. It is recommended that Textiles I be taken prior to this course.

214-268 OUTDOOR APPAREL AND EQUIPMENT 2 Cr. Selection, construction, and principles of maintenance of outdoor apparel and fabric equipment.

214-272 INDUSTRIAL SEWING 2 Cr. Industrial production procedures and operation of industrial sewing equipment.

214-298 FASHION MERCHANDISING — FIELD EXPERIENCE 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the merchandising area. Prerequisite: 214-120.

214-319 ECONOMICS OF CLOTHING 3 Cr. Analysis of garments or products for making discriminating choices in relation to desired use.

214-326 PROFESSIONAL MINI ENCOUNTER .5 Cr. In store observation and participation with specific executive personnel for two-day periods. Prerequisite: 214-298 and 214-325 or concurrent with or equivalent.

214-327 READY-TO-WEAR MERCHANDISING 2 Cr. Techniques for maximizing volume and profit within pre-determined market objectives, covering the major groupings of ready-to-wear. Prerequisite: 214-220, 214-225, 160-206.

214-329 FASHION MERCHANDISE PROMOTION 3 Cr. Practical application of the procedures involved in the promotion of fashion merchandising, display, oral and

wear including stock planning, market trends and controls. Prerequisite: 214-325.

214-527 STORE MANAGEMENT 3 Cr. This course develops management skills specific to retail stores of varying size. Prerequisite: Senior or graduate, 214-430, or consent of instructor.

214-529 FASHION MERCHANDISING INTERNSHIP 8 Cr. The internship program is designed to provide the qualifying student with a special opportunity in fashion retailing through pre-arranged jobs. These are advanced positions similar to trainee jobs. Prerequisite: 214-298, completion of 90 credits, GPA 3.0, Fashion Merchandise major.

214-529A FASHION MERCHANDISING INTERNSHIP 6 Cr. The internship program is designed to provide the qualifying student with a special opportunity in fashion retailing through pre-arranged jobs. These are advanced positions similar to trainee jobs. Prerequisite: 214-298, completion of 90 credits, GPA 3.0, Fashion Merchandise major.

214-541 FABRIC MAINTENANCE 2 Cr. Products and methods used in cleaning textile products. A comparative study of home and commercial laundry methods and dry cleaning procedures and their effects on textile products. Prerequisite: 214-140 Textiles.

214-545 COMMERCIAL AND HOUSEHOLD TEXTILES 2 Cr. Raw materials, fabric structures, specifications and legislation related to quality, performance and maintenance of textiles for commercial and household uses.

214-550 TEXTILE EVALUATION 3 Cr. Problems involving fiber identification, fabric, performance and fabric care. Chemical and microscopic testing procedures. Investigation methods for gathering and interpreting data. Individual problems. Prerequisite: 214-140.

214-566 APPAREL CONSTRUCTION—KNIT AND STRETCH FABRICS 2 Cr. A study of the principles of knit and stretch sewing and their application in the construction of garments. Prerequisite: 214-266 or consent of instructor.

214-568 ENGINEERED TAILORING 2 Cr. Application of industrial production methods to the construction of tailored garments. Prerequisite: 214-272 or 214-266.

214-580 FLAT PATTERN 3 Cr. A study and application of the techniques of pattern designed through drafting methods. An original garment is designed and constructed. Prerequisite: 214-266.

214-590 PRACTICUM IN TEXTILE DESIGN 3 Cr. An exploratory course devoted to the use of the following textile design techniques as a means of artistic expression: stitchery, weaving, knotting, applique and hooking. Emphasis will be placed on good design and creativity. Prerequisite: 304-101.

214-591 NATURAL DYEING AND HAND SPINNING 2 Cr. Dyes gathered from local environments, mordants selected, fibers dyed. Spinning of dyed fibers on spinning wheels/drop spindles. Lecture/discussions on historic dimensions.

214-592 PRACTICUM IN TEXTILE PRINTING 2 Cr. Exploring use of textile design techniques — primarily silk screen,

tie dye, printing, and batik. Emphasis will be placed on good design and creativity. Prerequisite: 304-101.

214-610 HISTORY OF COSTUME: ANCIENT TO EUROPEAN 1900 3 Cr. Development of costume throughout the ages. Fashion as it reflects the cultures of the past and influences present-day costume.

214-611 HISTORY OF AMERICAN COSTUME 3 Cr. American costume as it evolved from colonial to contemporary times with emphasis on costume characteristics and social, political, religious and cultural influences.

214-617 SOCIAL-PSYCHOLOGICAL ASPECTS OF CLOTHING 3 Cr. The social significance of clothing to an individual and the influence it has upon his behavior.

214-625 MASS MERCHANDISING 3 Cr. History, planning, design and techniques of mass merchandising as related to shopping centers, discount stores, and franchised and leased operations. Prerequisite: 214-325.

214-639 NATIONAL STUDY TOUR TO FASHION INDUSTRY 1 Cr. Five day visit in New York City (or alternate city). Program will involve study hours, discussions, and lecture by leading people in American fashion market. Prerequisites: Junior, senior, or graduate standing; consent of instructor.

214-645 UNITED STATES TEXTILE STUDY TOUR 2 Cr. Tour of the textile industries in the United States. Includes professional visits, lectures and discussions by consultants in the textile field. Prerequisite: Upper division or graduate standing.

214-650 TEXTILE SCIENCE 3 Cr. Structural aspects of textile fibers and fabrics. Application and evaluation of dyes, finishes, and soil removal agents. Fiber analysis through solubility and microscopic appearance. Prerequisite: 214-140 Textiles.

214-655 RECENT DEVELOPMENTS IN CLOTHING AND TEXTILES 2 Cr. Various areas of apparel and textiles are explored in light of new developments in these and related fields. Prerequisites: 214-140 and 214-266 or consent of instructor.

214-666 TAILORING 3 Cr. Application of tailoring techniques in making suits and coats. Prerequisite: 214-266.

214-670 THEATRICAL COSTUMING 3 Cr. Problems in costuming a theatrical production. Planning, designing, and building costumes for a major theatre production, as coordinated by the director of the production. Prerequisite: 214-266 or permission of instructor.

214-680 DRAPING 3 Cr. Application of draping principles in the designing and construction of garments. Emphasis on creativity. Prerequisite: 214-266.

214-681 APPAREL DESIGN - DRAPING 1 Cr. Apparel design through the advanced techniques of draping. Emphasis on the individuality and on fabrics of interesting textures and design. Prerequisite: 214-680.

214-682 APPAREL DESIGN - FLAT PATTERN 1 Cr. Draft a master pattern for self and develop paper patterns from a master pattern from given and self designed garment sketches that incorporate advanced techniques. Construct gar-

ments from the evolved patterns. Prerequisite: 214-580.

214-690 ADVANCED TEXTILE DESIGN — STITCHERY 1 Cr. Exploration in depth of the creative potentials of specific areas in textile design - stitchery-applique. Prerequisite: 214-590.

214-691 ADVANCED TEXTILE DESIGN — NON-LOOM 1 Cr. Exploration in depth of the creative potentials of specific areas in textile design: non-loom interlacing thread techniques (spring, macrame, netting, knitting, crocheting). Prerequisite: 214-590.

214-692 ADVANCED TEXTILE DESIGN — HOOKING 1 Cr. Exploration in depth of the creative potentials of specific areas in textile design - hooking - rya. Prerequisite: 214-590.

214-693 STRUCTURAL DESIGN AND WEAVING 2 Cr. A studio course involving experiences in weaving and other structural techniques. Prerequisite: 304-101, consent of instructor.

214-694 ADVANCED WEAVING STUDIO 2 Cr. Advanced study and experiences in complex hand weaving techniques. Focus on block theory, pile constructions, leno techniques, and double cloth. Individual exploration encouraged. Prerequisite: 214-693 or equivalent.

214-695 HISTORIC AND CONTEMPORARY FABRICS 3 Cr. Study of historic and contemporary fabrics with analysis of designs and techniques of decorating fabrics. The contribution of decorative fabrics to the enrichment of human experience.

FOOD SCIENCE AND NUTRITION

229-101 DIETETICS AS A PROFESSION 1 Cr. Identification of the types of dietetic and food service administration programs in the United States. The role and function of staff in each. Professional literature in the field.

229-124 FOODS 4 Cr. Scientific principles and application in the selection, preparation and service of food.

229-136 FOOD FOR YOUNG CHILDREN 2 Cr. Food needs of infants and young children, designed for early childhood education majors. Not applicable for students with credit in 229-212.

229-202 FUNDAMENTALS OF NUTRITION 2 Cr. Basic principles of applied nutrition. A study of nutritional, sociopsychological, physiological and environmental factors related to the dietary patterns of people throughout the world. Not applicable for students in Home Economics Education, Dietetics, Home Economics in Business, Food and Nutrition, nor those with credit in 229-212.

229-205 NUTRITION FOR WEIGHT CONTROL 2 Cr. Basic principles of nutrition as related to the physical stamina, mental alertness and emotional stability of individuals undergoing weight modification.

229-212 NUTRITION 3 Cr. Principles of human nutrition and application in the selection of food for members of the family group.

229-220 OUTDOOR COOKING 1 Cr. Food preparation principles as applied to cooking and serving outdoors. Study of equipment used in outdoor food preparation. Investigation of foods for camping, backpacking, and canoe camping. Sections on preparation of wild game and on gathering and preparation of wild foods.

229-240 FOOD SCIENCE 4 Cr. Study of physical and chemical changes as they affect the selection, preparation and service of food. Prerequisite: 311-201.

229-260 MENU PLANNING AND DESIGN 2 Cr. The principles of menu planning, design, and production for commercial and institutional food establishments.

229-300 CREATIVE TABLE APPOINTMENTS 1 Cr. Principles of design applied to the selection of table appointments for creative entertaining. Not appropriate for students with 229-308 Meal Management requirement. Prerequisite: 304-101.

229-305 BAKING PROCESSES (A) YEAST BREADS (B) CAKES (C) QUICK BREADS (D) PASTRY AND PASTAS 1 Cr. The art and science of baking with reference to home and industrial methods. Course may be repeated for different subunits.

229-308 MEAL MANAGEMENT 3 Cr. Development and application of management principles to decision making in meal production. Time, energy and cost considerations in providing meals of optimum aesthetic and nutritional value. Prerequisite: 229-124 or 229-240 and 229-212.

229-318 MEAL MANAGEMENT PRACTICUM 2 Cr. Practical applications and problem solving using principles

of food economics, meal management, and food service for family-sized consumer groups. Prerequisites: 229-124 or 229-240, 229-212.

229-320 COOKING WITH SMALL APPLIANCES 1 Cr. Food preparation with small kitchen appliances. Emphasis on maximizing ideas for usefulness, not on mechanics of the equipment and its design. Prerequisites: 229-308 and 229-318 or consent of instructor.

229-404 FOOD SERVICE MANAGEMENT FOR CHILD DEVELOPMENT CENTERS 2 Cr. Administration of food service for preschool children in centers, with consideration of individual needs and emotional reactions to food, meal planning, purchasing, receiving and storage, principles of food preparation and service, and equipment.

229-405 FOOD SERVICE PRACTICUM FOR CHILD CARE CENTERS 1 Cr. Application of food management principles for directors of child care centers. Personnel management; menu planning; recipe selection, standardization and adjustment; food purchasing and storage; food production and service; equipment use; sanitation and safety; and nutrition education in a day care setting. Prerequisite: 229-404.

229-410 ADVANCED NUTRITION 3 Cr. Principles of human nutrition applied to individual, family, community, and world problems. Prerequisites: 229-212, 311-511.

229-446 FOOD PRESERVATION 1 Cr. Principles and practical application of methods of food preservation and storage.

ANTHROPOLOGY

program will have organization to research, analysis, synthesis, and evaluation of material in

303-220 INTRODUCTION TO CULTURAL ANTHROPOLOGY 3 Cr. Introduction to concepts and methods, variability of culture, outline of cultural elements, processes of cultural change.

303-250 MAN AND HIS PAST 3 Cr. An introduction to the study of biological anthropology. Included will be discussion of man as a primate, man's genetic makeup, stages of human evolution, the relation of biology to culture, concepts of race, and man and his present environment.

303-300 NATIVE AMERICANS 3 Cr. A focus on three major aspects of North American Indian Studies: 1) description of the varied Native American cultures prior to European contact; 2) Indian/European historical relationships; and 3) present day reservation/urban Indian life and issues.

ART

304-100 DRAWING 3 Cr. Concentration on the development of visual sensitivity through drawing with various media.

304-101 FUNDAMENTALS OF DESIGN 3 Cr. Elementary design in two and three dimensions using various media with the intention of developing visual sensitivity.

304-105 SUMMER ART EXPERIENCE 1 Cr. This is an intensive experience in art utilizing the studio, nature and galleries or museums as developmental stimuli.

304-202 INTRODUCTION TO ART 3 Cr. Principles of visual organization, the expressive possibilities offered by materials and the level of meaning and appreciation possible in the visual arts.

304-204 INTERIOR DESIGN 3 Cr. Problems involving the design, selection, and arrangement of furnishings for living and working quarters. Prerequisite: 304-101.

304-205 PROBLEMS IN INTERIOR DESIGN 2 Cr. Advanced work in the design, selection and arrangement of furnishings for living and working quarters. May be repeated. Prerequisite: 304-204.

304-256 ART WORKSHOP: (TOPIC) 1-3 Cr. Selected art concepts, processes and media which will vary from workshop to workshop to serve special student populations. Credits (1-3) will be determined by individual contract. Prerequisite: Consent of instructor.

304-300 DESIGN THEORY AND METHODS 3 Cr. A study and application of various techniques and theories of design to fundamental design problems. Prerequisite: 304-101 or 170-205.

304-305 PRESENTATION TECHNIQUES 3 Cr. Experience in the various techniques of visually developing and presenting a design.

304-310 GRAPHIC DESIGN I 3 Cr. A systematic study of visual communication problems related to informing and/or persuading a specified audience. Prerequisite: 304-101.

mist as a program planner. Prerequisites: Senior or graduate standing, 229-212 Nutrition or equivalent (preferably within past two years), courses in social and behavioral sciences are recommended.

HOME ECONOMICS EDUCATION

242-101 EXPERIENTIAL LEARNING IN HOME ECONOMICS 1 Cr. Analysis of the contribution of Home Economics education in the development of individuals and families and identification of the responsibilities of a professionally trained home economist.

242-201 TEACHING TECHNIQUES IN HOME ECONOMICS 2 Cr. Study of teaching techniques and skills for home economics learning experiences in relation to classroom organization and objectives.

242-240 CLINICAL EXPERIENCE IN MICRO-TEACHING 1 Cr. Video-taped micro lessons with micro classes will be reviewed for self evaluation and critique with instructor.

242-241 CLINICAL EXPERIENCES IN THE COMMUNITY 1 Cr. Plan and implement home economics learning experiences for children and adults in community programs.

242-301 HOME ECONOMICS CURRICULUM 3 Cr. Development of curriculum to meet the needs of students in Home Economics programs. Prerequisite: Junior or senior standing.

242-341 CLINICAL EXPERIENCES IN SCHOOLS 1 Cr. Supervised experience in

classroom teaching for development of motor, perceptual, social and cognitive learning through Home Economics substantive areas. Prerequisite: Junior standing, 242-240 recommended.

242-350 LABORATORY TECHNIQUES FOR TEACHING AND LEARNING IN HOME ECONOMICS

1 Cr. Develop laboratory techniques for managing human and material resources to promote learning in a single purpose or diversified home economics laboratory. Prerequisite: Junior standing.

242-443 CLINICAL SEMINAR IN HOME ECONOMICS EDUCATION

2 Cr. Preparation for and evaluation of the student teaching experience. Emphasis on analysis of the classroom situation and evaluation of the teaching process. Prerequisite: 242-301 recommended; parallel enrollment 242-444 required.

242-444 PRACTICUM IN TEACHING HOME ECONOMICS

6 Cr. Practicum designed to provide experience in applying knowledge of theory of teaching and learning. Emphasis on self-evaluation and analysis of the teaching learning situation under the guidance of a master teacher. Prerequisite: 242-301 recommended; parallel enrollment 242-443 required.

242-460 FAMILY FOCUSED EVALUATION IN HOME ECONOMICS

3 Cr. Development of evaluation for home economics subject matter and student critical thinking skills. This course does not meet occupational certification. Prerequisite: 242-301.

242-488 INTERNSHIP TEACHING

8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried ap-

pointments in cooperating school systems for one full semester. Prerequisite: 242-301.

242-500 EXTERNSHIP: HOME ECONOMICS COMMUNITY EDUCATION 4-8 Cr. Practicum in one or more of the following: extension services in home economics; elementary education in home economics; post-secondary education in home economics; occupational teaching experience in home economics; and community educational services. Course cannot be taken for graduate credit without the approval of the graduate program director. Prerequisite: Consent of department.

242-503 PROGRAMS IN HOME ECONOMICS IN THE MIDDLE AND ELEMENTARY SCHOOL 3 Cr. Development of techniques, materials, and curriculum concepts in Home Economics with the application of principles of human growth and development for teaching in the middle school.

242-544 FUTURE HOMEMAKERS OF AMERICA WORKSHOP 1 Cr. Integration of Future Homemakers of America and the home economics related occupations student organizations into the home economics classrooms and programs. Prerequisite: Junior standing.

242-620 VOCATIONAL PROGRAMS IN HOME ECONOMICS 2 Cr. Techniques, materials and curriculum for wage earning programs in Home Economics in the secondary and post-secondary school. Preliminary procedures for program development included. Prerequisites: 242-301, 199-502.

242-623 EDUCATION FOR CONSUMER HOMEMAKING 2 Cr. Devel-

opment of curriculum including evaluation of methods and materials for teaching Consumer Education at secondary level. Prerequisite: 242-301.

242-625 OCCUPATIONAL EDUCATION IN CLOTHING SERVICES 2 Cr. Development of the concept of occupational education in secondary, post secondary and adult programs in home economics; specifically related to a cluster of courses in clothing services. Prerequisite: Senior or graduate standing in Home Economics or Home Economics Education.

242-630 CONCEPTS OF EXTENSION EDUCATION 2 Cr. Study of the concepts and processes involved in conducting educational programs for adult and youth; includes philosophy, objectives and organization of Extension Education, leadership, development, program development, teaching methods and evaluation. Prerequisite: Senior or graduate standing in Home Economics or Home Economics Education.

242-651 FAMILY LIFE EDUCATION PROGRAMS 2 Cr. Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. Prerequisite: Senior standing, consent of instructor.

HABITATIONAL RESOURCES

245-x98 HOTEL AND RESTAURANT — FIELD EXPERIENCE 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Prerequisite: 245-140.

245-100 THE ROLE OF MANAGEMENT IN HOSPITALITY INDUSTRY

2 Cr. Students, as prospective managers, will define and analyze the nature of work, people, change and education, and their interrelationships within the hospitality industry.

245-201 HOSPITALITY HOUSEKEEPING MANAGEMENT 2 Cr. Management principles applied to the duties and responsibilities of the housekeeper in hotels, motels, institutions and other hospitality enterprises.**245-202 FRONT OFFICE MANAGEMENT** 3 Cr. The principles required to organize, operate and manage a front office in a hotel or motel. Guest needs, salesmanship, and procedures used in different types of front office operations.**245-205 HOSPITALITY ORGANIZATION MANAGEMENT** 3 Cr. Management principles pertinent to hotels and restaurants, supervisory development and training labor relations, union contracts, ownership and financial structure, and managerial interpretation and evaluation of current systems and procedures. Prerequisite: 245-140.**245-222 INSTITUTIONAL FOOD PURCHASING** 2 Cr. Methods of purchasing food in large quantities. Determination of standards, specific needs and industrial offerings; formulation of specifications, buying procedures, and controls. Prerequisite 229-124.**245-240 INTRODUCTION TO TOURISM AND THE TRAVEL INDUSTRY** 2 Cr. Principles and current knowledge of domestic and international tourism. The benefits of this industry to the community,

area, state and nation, including its trends and potentials. Prerequisite: 320-210.

245-250 FAMILY HOUSING 3 Cr. The relationship of space, equipment, and aesthetic and cultural aspects to human habitat.**245-275 MANAGEMENT OF FAMILY RESOURCES** 3 Cr. Application of the basic concepts of management to family economics. Prerequisite: 245-105.**245-301 BAR MANAGEMENT** 2 Cr. The history, format and management of bar operations.**245-311 QUANTITY FOOD PRODUCTION** 3 Cr. Concepts for quantity food production; menu planning, recipe development, work production schedules, production analysis, food and labor cost controls, and introduction to productivity and work simplification concepts. Laboratory experience in food production and service. Prerequisite: 229-124.**245-312 RESTAURANT OPERATIONAL MANAGEMENT** 3 Cr. Service of special functions, banquets, receptions, etc. Emphasis is placed on planning, preparation service, menu planning, cost controls, classical buffet set-ups and personnel organization. Prerequisites: 229-124, 245-123.**245-340 DEVELOPMENT OF TOURISM ATTRACTIONS** 3 Cr. The study of diversified natural and man-made background tourism elements (BTE), their preservation and incorporation in concepts for the development of tourism destinations. Prerequisite: 245-240, 320-210.

245-341 TOURISM GOODS AND SERVICES 3 Cr. Study of total and component parts of tourism goods and services including an examination of the present and future patterns of supply and demand. Prerequisites: 245-240, 320-201.

245-344 HOSPITALITY MARKETING AND SALES 3 Cr. Analysis of theories, fundamental principles and techniques of hospitality marketing and convention sales, stressing the functions, interrelationships and coordination of all hospitality departments and their roles in assuring a successful marketing effort by all.

245-355 HOME EQUIPMENT OPERATIONAL PRINCIPLES 3 Cr. A study of the physical principles and fuels involved in the operation of household appliances; and, selection, operation, use and care of small and portable appliances.

245-360 CONSUMER ECONOMICS 3 Cr. Motives in consumption; family income and expenditures, selection of commodities and services; buying and selling practices. Evaluation of consumer aids and investigation of local situations. Prerequisite: 320-201.

245-370 HOTEL AND RESTAURANT ACCOUNTING 3 Cr. A study in the design and interpretation of specialized accounting and financial control systems in management decision-making. Emphasis will include uniform system of accounts, departmentalized costing procedures, statement analysis and interpretation. Prerequisite: 160-206.

245-371 FOOD, BEVERAGE AND LABOR COST CONTROLS 3 Cr. The use of financial management techniques and sys-

tems to control food, beverage and labor costs in hospitality food service operations and clubs.

245-414 HAUTE CUISINE 3 Cr. The study and preparation of classical food items and service culminated with the serving of a formal banquet. Prerequisite: 245-312; Seniors only accumulating GPA of 2.5 or better.

245-436 LIGHTING FOR RESIDENTIAL INTERIORS 2 Cr. Practical information on light for general residential living. Emphasis will be made on the sociological, psychological and physical aspects of the lighting environment.

245-455 KITCHEN PLANNING 2 Cr. Arrangement of work centers, equipment, storage and activities for maximum work efficiency in residential kitchen design. Prerequisite: 245-250 or permission of the instructor.

245-495 HOTEL AND RESTAURANT INTERNSHIP 40 Hrs. Minimum 6 Cr. Summer 8 Cr. Sem. 1 and 2. Predesigned opportunities in hospitality management through prearranged advanced positions similar to management training programs. Summer internships are a minimum of 12 weeks in length. Prerequisite: Completion of 90 credits, GPA 3.25 or better, Hotel and Restaurant major and Internship Committee approval.

245-498 AMERICAN STUDY TOUR IN BUSINESS AND INDUSTRY 1 Cr. Five day visit in New York City or alternate city. Will involve study tours, discussions and lectures by leading people in industry, business and communications related to these fields.

245-501 FOOD SERVICE ADMINISTRATION 3 Cr. Organization and administration of institutional food service systems, personnel selection and training, cost control, and problems of supervision. Prerequisite: 229-318.

245-513 QUANTITY FOOD PRODUCTION AND SERVICE 3 Cr. Application of the principles of food preparation to large quantity production, menu and formula standardization, food production costs, and menu planning for institutions. Prerequisite: 245-501 or 245-312.

245-515 LODGING ADMINISTRATION 3 Cr. Analysis of theories, principles, and techniques of lodging management. Emphasis on problems and issues encountered by management in providing quality service within a cost efficiency organization.

245-521 FOOD SERVICE EQUIPMENT 2 Cr. A comprehensive study of the factors affecting design, selection, physical facilities and utilities involved in food service equipment. Prerequisite: 130-110.

245-531 ECOLOGY OF HABITAT 2 Cr. A broad philosophical as well as physical perspective of human housing and which includes international aspects. A deep insight into family housing needs and the achievement of learning regarding these needs through laboratory experience. Value is placed upon the role of the home economist in the solution of world housing problems. Prerequisite: six credits of housing, equipment or equivalent.

245-565 CONSUMER ASPECTS OF LIFE INSURANCE 1 Cr. Comparative methods of determining life insurance needs; evaluation of the adequacy of policy

and program features and its relevance to family financial planning. Prerequisite: 245-275 or consent of instructor.

245-566 CONSUMER ASPECTS OF HEALTH INSURANCE 1 Cr. The types and sources of health insurance available to the American consumer. An analysis of the American health care crisis and proposed solutions. Prerequisite: 245-275 or consent of instructor.

245-600 INTEGRATED MANAGEMENT SYSTEMS - HOSPITALITY 2 Cr. Exploration, comparison and synthesis of practices, concepts, and theories in hospitality management systems.

245-621 FOOD SERVICE LAYOUT ANALYSIS 2 Cr. Principles, knowledges and techniques required to successfully analyze and design work systems common to food service operations. Prerequisite: Senior standing or permission of instructor.

245-625 HOSPITALITY INDUSTRY LAW AND LIABILITY 3 Cr. The laws applicable to ownership and operation of inns, hotels, motels, restaurants, and other places of public hospitality.

245-626 EMPLOYEE AND LABOR RELATION IN THE HOSPITALITY INDUSTRY 2 Cr. An investigation of employee and labor relations in the hospitality industry-including the history, legality and techniques of dealing with unionization.

245-640 PSYCHO-SOCIAL DIMENSIONS OF TOURISM 3 Cr. The various psycho-social dimensions of tourism: motivation, development, community and conflict, as related to consumer-tourists, tourists, and residents.

245-645 GEOGRAPHY OF TOURISM 3 Cr. Locational analysis of land use and human migration related to national and international tourism. Prerequisite: 245-240, 245-340, or permission of instructor.

245-650 HUMAN HABITAT 3 Cr. Appreciation and understanding of differences in socio-economic factors of the environment which influence effective utilization of family housing resources. Emphasis will be on adjustment and flexibility of safety, comfort, convenience, physical and financial maintenance based on the family cycle. Field trips and individual projects.

245-651 HOUSE EVALUATION SEMINAR 2 Cr. Appreciation and understanding of the socio-economic factors and environmental conditions which influence effective utilization of family resources. Emphasis will be on costs, adaptability, safety, comfort, convenience, and maintenance based on family needs. Projects will be chosen and studied by the individual or group.

245-655 MAJOR KITCHEN APPLIANCES 3 Cr. The detailed structure and performance analysis of ranges, refrigerators, freezers, disposers, dishwashers, microwave ovens, and selected kitchen appliances. Prerequisite: 245-355 or equivalent.

245-656 MICROWAVE OVEN 2 Cr. Application of microwave heating principles to the preparation and service of foods.

245-658 EXPERIMENTAL LAUNDRY PROCEDURES 2 Cr. Application of current knowledge necessary for effective laundering of household fabrics. Special emphasis on use of equipment in the laundry process, laundry aids, and water composition. Experimental laboratory experiences.

245-660 CONSUMER CREDIT 1 Cr. An investigation of consumer credit — including types and sources of credit, determination of credit costs, considerations before using and regulatory laws. Prerequisite: 245-360 or consent of instructor.

245-661 CONSUMER PROBLEMS 3 Cr. Factors influencing consumer choices; evaluation of various consumer aids. Consideration of consumer responsibilities to meet current needs. Activities of consumer groups. Prerequisite: 245-360 or 245-275.

245-662 CONSUMER PROTECTION 1 Cr. Consideration and evaluation of the major federal and state consumer protection agencies as well as major business, industry and private organizations set up to aid consumers. Discussion of avenues of individual and collective consumer redress. Prerequisite: 245-360 or consent of instructor.

245-663 CONSUMER LAW 1 Cr. An evaluation of the major federal and state consumer protection laws and consideration of the difficulties in obtaining passage and implementation. Discussion of pending federal and state consumer protection legislation. Prerequisite: 245-360 or consent of instructor.

245-670 HOSPITALITY INDUSTRY FINANCIAL ANALYSIS, BUDGETING AND FORECASTING 3 Cr. The application of accounting and financial analysis techniques to managerial decision-making in the hospitality industry. Prerequisites: 160-206, 245-370, 245-371.

245-676 FAMILY FINANCE 2 Cr. A study of the financial decisions and judgments which the average individual and family must make during a lifetime. Emphasis is on income and occupation, family

expenditures, credit, savings, taxes and estate plans. Prerequisite: 320-201.

245-681 SPECIAL PROBLEMS IN HABITATIONAL RESOURCES 2 Cr. Special seminars on current problems that exist in the area of Habitational Resources. Topics of the seminar can be chosen by the instructor, individual or the group.

245-682 HOSPITALITY AND THE HANDICAPPED TRAVELER 1 Cr. Provide increased sensitivity to needs of the handicapped traveler and offer insight into the problems and possible solutions facing hospitality organizations.

245-685 DEMONSTRATION TECHNIQUES 2 Cr. Application of demonstration principles in planning and presenting all types of home economics demonstrations.

245-686 HOME MANAGEMENT SEMINAR 1 Cr. To prepare students for management in selected areas of consumer science, family economics, family finance, home management, household equipment, and housing. Opportunity to combine study of special topics and laboratory experiences in home management of family resources in seminars. This course may be repeated for credit.

LIBERAL STUDIES

INTERDEPARTMENTAL

300-250 SOVIET SEMINAR TOUR 2 Cr. Introduction to Russian civilization and contemporary Soviet society and government, including tours of schools, museums, churches, historical sites and seminars with Soviet students and community leaders.

300-255 CREATIVE PROBLEM SOLVING 2 Cr. Transdisciplinary problem solving through acquaintance with and practice in the use of a systematic approach to real problems.

300-511 TOPIC IN WOMEN'S STUDIES 1-3 Cr. Exploring, from an interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. Prerequisites: 500-510 or permission of instructor.

300-542 INDUSTRIAL HYGIENE 3 Cr. Principles and techniques to recognize, evaluate, and control existing or potential occupational health hazards that affect employee safety and health.

300-575 THE ASCENT OF MAN 2 Cr. An exploration of the nature and intellectual/philosophical/technical growth of humankind using the "Ascent of Man" TV series as the basis for thought and discussion. Prerequisite: Junior standing or consent of instructor.

304-314 PROCEDURES AND SPECIFICATIONS FOR THE INTERIOR DESIGNER 2 Cr. Professional procedures and specifications related to interior design proposals. Emphasis on liabilities quality control, material performance, public standards and the use of related form. Prerequisite: 304-204.

304-315 ENVIRONMENTAL INTERIOR DESIGN I 3 Cr. Problems related to integrating systems analysis of architectural settings with use of interior design components; emphasis on private interior spaces: Home, office, classroom. Prerequisite: 304-204.

304-316 ENVIRONMENTAL INTERIOR DESIGN II 3 Cr. Problems related to integrating systems analysis of architectural settings with use of interior design components; emphasis on public interior spaces: church, hotel and motel, restaurant, library, bank. Prerequisite: 304-204.

304-319 EVOLUTION OF DESIGN 3 Cr. A survey of basic concepts which give form to the evolution of architecture, art, and design from prehistory to the present.

304-320 INTERIOR FURNITURE DESIGN 3 Cr. The structural, material, economic and aesthetic considerations involved in the design of contemporary furniture with application to studio design projects.

304-330 INDUSTRIAL DESIGN I 3 Cr. The first course in the industrial design sequence providing an overview of design skills in their application to the resolution of product design problems. Prerequisite: 304-300 or 170-205.

304-331 WOMEN IN ART HISTORY 3 Cr. A survey of the images and the imagery of women in art from prehistoric times to the present.

304-340 INDUSTRIAL DESIGN II 3 Cr. The second course in the industrial design sequence with emphasis on an increased depth of understanding of design skills as applied to the resolution of complex product design problems. Prerequisite: 304-330.

304-360 GRAPHIC DESIGN II 3 Cr. The social, business and ethical factors affecting visual communication are investigated while deepening the student's sensitivity and experience in graphic design. Prerequisite: 304-310.

304-405 ADVANCED PRESENTATION TECHNIQUES FOR DESIGNERS 3 Cr. Techniques and skills associated with presentation and communication of visual materials; advanced perspective, mixed media rendering, transparent watercolor rendering, gouache rendering applied to presentation of product's interiors, exteriors. Prerequisite: 304-305.

304-430 INDUSTRIAL DESIGN III 4 Cr. The third course in the industrial design sequence dealing in advanced design problems determined by consultation between the student and instructor. Prerequisites: 304-330 and 304-340.

304-431 SYMPOSIUM IN INTERIOR DESIGN 2 Cr. An exposure to and discussion of the practical working world of the interior design. Prerequisite: 304-301 (taken sequentially with).

304-440 INDUSTRIAL DESIGN IV 4 Cr. The fourth course in the industrial design sequence with emphasis on a profes-

sional level of understanding and skill applied to an advanced design problem determined by consultation between the student and instructor. Prerequisite: 304-430.

304-451 INTERIOR DESIGN PRACTICUM 3 Cr. A working experience with an interior designer or in a design related field arranged with an interior design work experience coordinator. Prerequisite: 304-204 and 304-205.

304-500 DRAWING I-3 Cr. Continuation of 304-100 with emphasis placed on the exploitation of media for creative and expressive ends. May be repeated. (May be taken for 1-3 credits when the first three-credit courses in each area, which are required, have been completed.) Prerequisite: 304-100.

304-501 LIFE DRAWING 3 Cr. The human figure in action and at rest. Problems in figure composition. Prerequisite: 304-100, 304-500.

304-502 LIFE DRAWING I-3 Cr. Advanced problems in figure composition and in graphic interpretation of the figure. May be repeated. (May be taken for 1-3 credits when the first three-credit courses in each area, which are required, have been completed.) Prerequisite: 304-501.

304-503 DESIGN 3 Cr. Development of ideas presented in 304-101 in depth and complexity. May be repeated. Prerequisites: 304-101, 304-500.

304-507 INTRODUCTION TO ART THERAPY 3 Cr. The art therapist's function; general art therapy philosophy, history, techniques, and its application to clients in treatment programs for various

mental and physical conditions. Concept of the art therapist as a member of a medical team with practical experiences. Prerequisite: Junior standing.

304-509 PAINTING 3 Cr. Introduction to the character and use of various painting media. Work from still life and life with reference to problems of two dimensional color composition. Prerequisite: 304-500.

304-510 PAINTING I-3 Cr. Advanced work in oil painting, with reference to the exploitation on the medium for creative and expressive ends. May be repeated. (May be taken for 1-3 credits when the first three-credit courses in each area, which are required, have been completed.) Prerequisite: 304-509.

304-511 SCULPTURE 3 Cr. Introduction to sculptural concepts. Prerequisite: 304-500 or equivalent.

304-512 SCULPTURE I-3 Cr. Advanced problems in sculpture with reference to the exploitation of media for creative and expressive ends. May be repeated. (May be taken for 1-3 credits when the first three-credit courses in each area, which are required, have been completed.) Prerequisite: 304-511.

304-513 CERAMICS 3 Cr. Basic design and techniques of ceramic production for the artist-potter; forming, firing, and decorating.

304-514 CERAMICS I-3 Cr. Techniques in the use of clay, glazes, and kiln for the design and production of high fired ceramics. May be repeated. (May be taken for 1-3 credits when the first three-credit courses in each area, which are required, have been completed.) Prerequisite: 304-513.

304-515 ART METAL 3 Cr. The design and construction of objects in precious metals. Prerequisite: 304-101 or equivalent.

304-516 ART METAL 1-3 Cr. Advanced problems in the design and construction of objects in precious metals. May be repeated. (May be taken for 1-3 credits when the first three-credit courses in each area, which are required, have been completed. Prerequisite: 304-515.)

304-517 PRINTMAKING 3 Cr. The techniques of relief and lithographic printmaking. Prerequisites: 304-101, 304-100, 304-500.

304-518 PRINTMAKING 1-3 Cr. The techniques of intaglio and serigraphic printmaking. (May be taken for 1-3 credits when the first three-credit courses in each area, which are required, have been completed.) Prerequisites: 304-101, 304-517, 304-500.

304-519 CURRENT ART IDEAS AND PRACTICES 3 Cr. This is a seminar/laboratory course dealing with investigations of ongoing contemporary art issues, ideas and directions. Prerequisite: Students must be in their fifth semester of study in Art or have completed advanced courses in at least two studio areas.

304-520 CLAY AND GLAZE LABORATORY 1 Cr. Procedures and processes involved in the testing of clays; formulations of clay bodies, and the development of clay slips and ceramic glazes for the artist/potter. Prerequisite: 304-513 or 304-514*. (*May be waived with instructor's approval.)

304-522 MODERN ART 3 Cr. The main currents and developments in art from Monet and Cezanne to 1950.

304-523 SURVEY OF ART: ANCIENT THROUGH MEDIEVAL 3 Cr. The painting, sculpture, architecture and minor arts in the ancient Western World.

304-524 SURVEY OF ART: THE RENAISSANCE THROUGH THE 20TH CENTURY 3 Cr. Sculpture, painting, architecture and minor arts of the Western World from 14th Century to present.

304-525 EGYPTIAN AND MESOPOTAMIAN ART 3 Cr. The evolution of the arts of ancient Egypt and the Near East.

304-526 GREEK AND ROMAN ART 3 Cr. The arts of ancient Greece and Rome.

304-527 MEDIEVAL ART 3 Cr. The arts of Europe and Byzantium from the later Roman Empire to the end of the Middle Ages.

304-528 ITALIAN RENAISSANCE ART 3 Cr. The problems and the evolution of Italian Renaissance sculpture and painting from the 14th to the 18th Century.

304-529 NORTHERN RENAISSANCE ART 3 Cr. The evolution of Renaissance art in northern Europe from the 15th to the 18th Century.

304-530 NORTHERN BAROQUE ART 3 Cr. Architecture, painting, sculpture and other art forms of 17th Century northern Europe.

304-531 SOUTHERN BAROQUE ART 3 Cr. The development of art in northern Europe from the Italian Renaissance to the 18th Century.

304-532 ECONOMICS OF HOUSE FURNISHING 3 Cr. Study of consumer home furnishing problems based on utilitarian, economic, aesthetic and social values of household commodities. Quantity and quality budgets at different price levels. Visits to home furnishing markets.

304-533 PERIOD FURNISHINGS 3 Cr. A survey of furniture and furnishings in the Western World.

304-534 FASHION ILLUSTRATION 2 Cr. Problems in graphic techniques, fashion illustration, contemporary fashion design and advertising presentation. Prerequisite: 304-101.

304-535 THE ART OF THE BLACK 3 Cr. Examines the art of the Black proceeding from its genesis in Africa, its influences on 20th Century Europe and its development in the United States from the Colonial Period to the present.

304-556 ADVANCED ART WORKSHOP: (TOPIC) 1-3 Cr. Selected art concepts, processes and media which will vary from workshop to workshop to serve special student populations. This is a series of workshops which would involve the student already acquainted with the workshop approach or more advanced in the art program. Credits 1-3 will be determined by student contract. Prerequisite: Consent of instructor.

304-600 EIGHTEENTH CENTURY EUROPEAN ART 3 Cr. The evolution of

European art forms during the 18th Century.

304-601 PRE-COLUMBIAN ART 3 Cr. The arts of the Americas, including Incan, Mayan, and Aztec from 1200 B.C. to about 1550 A.D.

304-602 AMERICAN ART 3 Cr. The development of the visual arts in the United States from the Colonial Period to 1950.

304-603 NINETEENTH CENTURY ART IN EUROPE 3 Cr. History of European art from about 1800 to 1900.

304-604 ART SINCE 1950 3 Cr. Developments in painting and sculpture in Europe and America since 1950.

304-605 ORIENTAL ART 3 Cr. Art from prehistoric times to the 19th Century in India and the Asian sub-continent.

304-606 ORIENTAL ART 3 Cr. Art from prehistoric times to the 19th Century in China, Japan and their spheres of influence.

304-607 ESTHETICS 3 Cr. A seminar based on a study of statements by philosophers on art. Prerequisite: 304-522.

BIOLOGY

308-122 BIOLOGY: AN ENVIRONMENTAL APPROACH 3 Cr. Principles such as cellular metabolism, heredity, and relationships between living organisms and their environment are emphasized in this course.

308-132 PHYSIOLOGY AND ANATOMY 4 Cr. The basic concepts of physiological processes and anatomy of all organ systems of the human beings based on dissection of the cat; embryological development.

308-142 BOTANY 4 Cr. An introduction to the structure and function of plants; survey of the plant kingdom; structure and life history of representative forms of plant life.

308-150 MAN AND THE ENVIRONMENT 2 Cr. Man's relationship to the world environment. Contemporary problems such as air and water pollution; biocides; solid waste disposal; depletion of natural resources; the menace of overpopulation; and the impending food crisis.

308-152 ZOOLOGY 4 Cr. An introduction to the fundamental concepts of animal life; survey of the animal kingdom; structure and physiology of representative animals; evolutionary relationships.

308-206 FOOD SERVICE AND ENVIRONMENTAL SANITATION 1 Cr. Microbial problems in the food service industry, including sanitation, storage, handling, distribution, serving, personnel, equipment and facilities.

308-220 PHYSIOLOGY OF DISABILITIES 3 Cr. The physiology of disabilities: etiology, pathology, clinical symptoms, prognosis, treatment, physical limitations resulting from specific diseases and disabilities. Prerequisite: 308-132.

308-254 ORNITHOLOGY 3 Cr. The roles of birds in natural ecosystems; morphological, physiological, and behavioral adaptations for their roles. Examples will

be drawn from local birds. Prerequisite: 308-152 or consent of instructor.

308-256 ANIMAL BEHAVIOR 3 Cr. An introduction to the study of the behavioral adaptation of animals to their environment, emphasizing the evolution of individual and social behavior patterns.

308-306 GENERAL MICROBIOLOGY 4 Cr. Structure and physiology of yeasts, molds, and bacteria. Growth requirements; methods used in culture and identification; introductory studies in bacterial analysis of water and milk; other problems in sanitation and food bacteriology.

308-310 HUMAN SEXUAL BIOLOGY 3 Cr. Structure, function and coordination of the human reproductive organ system. Formation and function of sex cells. Problems of lactation, fertility, sterility, sexuality, birth control. Human population challenges. Prerequisite: 308-132 or 308-122.

308-332 GENETICS 2 Cr. Fundamental principles of genetics, their functions and applications to plants, animals and man.

308-333 GENETICS LABORATORY 1 Cr. Perform genetic crosses which reinforce an understanding of the principles of heredity. *Drosophila* (fruit fly) will be the primary experimental organism. Selected exercises are designed to give actual experience in test breeding, observing, tabulating and interpreting results such as would be done in actual genetic research. Prerequisite: 308-332 or concurrent.

308-342 COMMUNITY HYGIENE 2 Cr. Disease prevention through education, sanitation, isolation, and immunization.

Public health programs and operation of federal and state laws.

308-350 ECOLOGY 3 Cr. Interrelationships of organisms with their abiotic and biotic environments. Prerequisites: 308-142, 308-152 or parallel.

308-358 INTRODUCTORY PHARMACOLOGY 2 Cr. Fundamental principles involving major groups of drugs, their actions and interactions in the human body. (Some science background recommended.)

308-362 ADVANCED PHYSIOLOGY 3 Cr. Physiological processes: digestion, respiration, metabolism, excretion, circulation, and muscle. Histological studies of blood; experiments of frog and turtle hearts; nerve and muscle preparation. Respiratory, nerve, circulatory, and muscle experiments on the human body. Prerequisite: 308-132.

308-506 FOOD MICROBIOLOGY 3 Cr. Fundamental methods of food preservation, their effectiveness, and the related spoilage of food products by microorganisms. Quality control techniques employed in determining the presence of specific groups of economically important microorganisms. Prerequisite: 308-306.

308-650 NEUROANATOMY 2 Cr. An extension of Comparative Ethology (308-520, 521). An exploration of phylogenetic adaptations of human behavior, utilizing the comparative model developed in 308-520, 521. Emphasis on the detailed study of sensory, central and motor behavior of animals as they relate to human behavior.

308-651 PSYCHOBIOLOGY 2 Cr. An extension of Comparative Ethology (308-

520, 521). An exploration of phylogenetic adaptations of human behavior, utilizing the comparative model developed in 308-520, 521. Emphasis on the detailed study of sensory, central and motor behavior of animals as they relate to human behavior.

CHEMISTRY

311-115 GENERAL CHEMISTRY I 5 Cr. The fundamental principles of chemistry such as structure, compound formation, bonding, reactions, oxidation-reduction, solutions, colloids, equilibrium, and acids and bases are presented in a framework which demonstrates applications in contemporary problems including environmental effects.

311-125 PRINCIPLES OF CHEMISTRY FOR HEALTH SCIENCES 5 Cr. Principles of chemistry with emphasis on reaction stoichiometry, equilibrium, and thermodynamics. For Dietetics, Food Service Administration, and other allied health science majors.

311-135 COLLEGE CHEMISTRY I 5 Cr. Principles of inorganic chemistry and the properties of important elements and compounds. Approach is more rigorous and coverage more extensive than in 311-115. Normally followed by 311-136. Prerequisite: Demonstrated competence in academic work.

311-136 COLLEGE CHEMISTRY II 4 Cr. A continuation of 311-115 or 311-135. Reactions and properties of common elements and inorganic compounds; oxidation-reduction and solution equilibria; electrochemistry. Laboratory procedures for qualitative analysis for common ions. Prerequisite: 311-115 or 311-135.

311-201 ORGANIC CHEMISTRY LECTURE 3 Cr. An introduction to the chemistry of carbon compounds with emphasis on the characteristic reactions of the several functional groups. Aliphatic and aromatic compounds are studied concurrently. 311-203 normally taken concurrently with 311-201. Prerequisite: 311-115 or 311-135.

311-203 ORGANIC CHEMISTRY LABORATORY 1 Cr. Laboratory work normally taken concurrently with 311-201. Prerequisite: 311-201 (concurrent).

311-204 ORGANIC CHEMISTRY II LECTURE 3 Cr. Basic organic chemistry with emphasis on organic reaction mechanisms. 311-206 normally taken concurrently with 311-204. Prerequisites: 311-115 or 311-135, and 311-201.

311-206 ORGANIC CHEMISTRY II LABORATORY 1 Cr. Laboratory work normally taken concurrently with 311-204. Prerequisites: 311-201, 311-203 and concurrent with 311-204.

311-501 PHYSICAL CHEMISTRY LECTURE 3 Cr. Fundamental physical chemistry; the behavior of gases, the liquid state, the properties of solutions, the principles of thermodynamics, thermochemistry. 311-503 is normally taken concurrently. Prerequisites: 311-115 or 311-135, 355-156, (311-531 recommended).

311-503 PHYSICAL CHEMISTRY LABORATORY 1 Cr. Laboratory which may accompany physical chemistry, normally taken concurrently. Experimental techniques and apparatus. Treatment of experimental data. Prerequisites: 311-115 or 311-135, 355-156, (311-531 recommended).

311-511 BIOCHEMISTRY 4 Cr. Fundamental chemistry and metabolism of carbohydrates, lipids and proteins. Second and third order structure of proteins. Chemistry of nucleic acids. Nature and dynamics of enzymes and enzyme action. Biological oxidations. Laboratory work involving polarimetry, colorimetry, chromatography and quantitative analytical procedures such as the Kjeldahl determination of protein nitrogen. Prerequisites: 311-201, 308-132.

311-515 FOOD CHEMISTRY 3 Cr. Organic biochemistry of foods with emphasis on the enzymatic and non-enzymatic changes associated with food preparation and storage, such as the Maillard-Browning reaction, denaturation of protein, changes in color, flavor, odor, texture and nutritive value. Techniques for the isolation and identification of the biochemical constituents of foods. Prerequisite: 311-115 or 311-125 or 311-135; and 311-201; and 311-203.

311-521 TEXTILE CHEMISTRY 3 Cr. Chemical and physical properties of monomers and high polymers of the following natural and synthetic fibers: cotton, cellulose derivatives, silk, wool, linen, nylon, polyesters, acrylics, olefins and polyurethanes. Laboratory analysis of textile fibers and textile fiber mixtures and dyestuffs; physical properties of textiles, synthesis of textile polymers, crease resistance. Textile finishing. Prerequisite: 311-115.

311-531 QUANTITATIVE ANALYSIS 3 Cr. Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques. Prerequisite: 311-115 or 311-135.

311-535 INSTRUMENTAL METHODS OF ANALYSIS 3 Cr. Application of in-

strumental methods to chemical analysis, including electrochemical methods; ultra-violet, visible, and infrared spectrophotometry, radiochemical methods, and applications of common instrumental methods. Techniques for obtaining reliable results by instrumental means. Prerequisite: 311-115 or 311-135, (311-531 recommended).

311-541 CHEMISTRY OF MATERIALS 3 Cr. The practical applications of the principles and facts of chemistry to technological problems. Topics include: the structure and properties of common materials; fuels—solid, liquid, gaseous, fossil, nuclear—and air pollution; water—domestic, industrial, sewage—and water pollution; electrical properties—cells, batteries, fuel cells, electrolysis—and corrosion of metals; protective coatings—paints, varnishes, enamels, lacquers, plating, anodizing, cladding, etc. Prerequisite: 311-115 or 311-135.

311-553 ENVIRONMENTAL CHEMISTRY 3 Cr. Environmental Chemistry is a course designed to present the principles and origins of those chemical reactions which lead to an ecological imbalance. Emphasis will be placed on systems which have contributed to large scale environmental pollution and/or which are of current importance and the study of chemical technology needed to correct this imbalance. Prerequisite: 311-115 or high school chemistry and permission of instructor.

311-612 ADVANCED BIOCHEMISTRY 3 Cr. Advanced topics in biochemistry. Molecular biology of the human and other organisms. Biosynthesis and catabolism with emphasis on enzyme action. Chemistry of specific tissues and fluids. Prerequisite: 311-201 Organic Chemistry I; 311-203 Organic Chemistry Lab I; 311-511 Biochemistry.

ECONOMICS

320-201 GENERAL ECONOMICS 3 Cr. Introduction to the basic elements of economics. Analysis of economic institutions, issues, and policy; theories of price, national income, and employment. Not open to students taking 320-210 and 320-215.

320-210 PRINCIPLES OF ECONOMICS I 3 Cr. Basic economic concepts and economic institutions, national income and employment analysis, business fluctuations, money and banking; monetary fiscal policies. Prerequisite: Sophomore standing.

320-215 PRINCIPLES OF ECONOMICS II 3 Cr. Price theory, income distribution, factor pricing, market mechanisms, functions of economic system, labor and collective bargaining and international economics. Prerequisite: 320-210.

320-325 ECONOMIC AND BUSINESS STATISTICS 3 Cr. Method of collection, analysis, and presentation of economics, social, and business data. Ratios, frequency distributions, averages, variability, linear regression, correlation, time series analysis, and principles of index numbers. Prerequisite: 355-118 or equivalent.

320-335 PERSONAL SECURITIES INVESTMENTS 2 Cr. Major aspects of security investments: common and preferred stocks, bonds mutual funds. Prerequisite: 320-201 or 320-210.

320-350 MONEY AND BANKING 3 Cr. Nature of money and bank credit; modern monetary theories, monetary policy. Emphasis on economics aspects rather than institutional description. Prerequisite: 320-201 or 320-210.

320-410 MICROECONOMICS 3 Cr.
Microeconomics: value and distribution theory; analysis of demand-firm, industry and utility; pricing of factors of production. Prerequisite: 320-215.

320-415 MACROECONOMICS 3 Cr.
Macroeconomics: determination of income, employment, growth rates, and price levels. Monetary and fiscal policies necessary for full employment. Prerequisite: 320-215.

320-420 LABOR ECONOMICS 3 Cr.
History of organized labor chiefly in Western industrial societies. Collective bargaining as viewed by labor, management, government, and the public. Basic labor economics; the institutions involved in modern labor relations. Prerequisite: 320-201 or 320-210.

320-421 COLLECTIVE BARGAINING AND LABOR RELATIONS 2 Cr. Introduction to collective bargaining in the United States, covering the formation, substance, and administration of a labor agreement and including a view of current labor law and the role of the NLRB. Prerequisite: 320-201, 320-210 or consent of instructor.

320-440 PRINCIPLES OF INVESTMENT 3 Cr. Principles and techniques of investments designed for the person in business; construction and management of security portfolios. Prerequisites: 160-340 and 160-335.

320-445 PUBLIC FINANCE 3 Cr. Survey of public finance at all governmental levels; taxation, expenditures, debt management, and fiscal policy. Prerequisite: 320-215.

320-450 ENERGY ECONOMICS 3 Cr.
Application of micro- and macroeconomic theory to energy problems; demand for energy; supply of energy including costs of traditional and non-traditional sources; regulatory problems of energy production; and effect of energy problem on employment, GNP, balance of payments, and income distribution. Prerequisite: 320-210, 320-215 or consent of instructor.

320-470 ECONOMIC MODEL BUILDING AND FORECASTING 3 Cr. Basic course in the application of quantitative models and methods to forecasting. Prerequisites: 320-215, 354-331 and 355-275 or consent of instructor.

320-550 MANAGERIAL ECONOMICS 3 Cr. Decision-making in the firm; demand and cost analysis; competitive and non-competitive price systems, marketing problems, capital budgeting, and criteria for investment decisions. Prerequisite: 320-215.

ENGLISH AND JOURNALISM

326-090 WRITING WORKSHOP 3 Cr.
Remedial writing course open to all students and taken on a pass/fail basis. The course is designed for those students who have particular writing problems and who need instruction and individual help. Credit earned for English 090 will not count toward graduation nor fulfill the English requirement.

326-101 FRESHMAN ENGLISH: COMPOSITION 3 Cr. The principles and practices of writing. Includes a documented paper. Prerequisite: Acceptable score on English Department Placement

Examination or a passing grade in 326-090.

326-102 FRESHMAN ENGLISH: READING AND RELATED WRITING 3 Cr. Readings focused on a theme reflected in literature. Specific topics and approaches are developed by each instructor. Opportunity for the student to do responsible, independent study. Requires intensive practice in composition. Prerequisite: 326-101.

326-111 FRESHMAN ENGLISH: HONORS 3 Cr. Readings in world literature and related writing designed for training in techniques of composition. Includes a documented paper. Prerequisite: Departmental selection on basis of ability.

326-112 FRESHMAN ENGLISH: HONORS 3 Cr. Continuation of 326-111 (Honors). Prerequisite: Departmental selection on basis of ability, 326-101 or 326-111.

326-203 AMERICAN POETS 3 Cr. Basic approach to narrative, dramatic, lyric poetry with emphasis on contemporary American writers. Prerequisite: 326-102 or 326-112.

326-204 THE SHORT STORY 3 Cr. The style, structure, history and development of the short story as a literary form. Prerequisite: 326-102 or 326-112.

326-250 CLASSICAL AND BIBLICAL LITERATURE IN TRANSLATION 3 Cr. Selections from Greek, Hebrew, and Latin literature. Prerequisite: 326-102 or 326-112.

326-300 LITERATURE FOR YOUNG CHILDREN 3 Cr. A critical survey of literature appropriate to children from birth to age 8 and an introduction to and directed practice of methods of presenting this literature. Prerequisite: 326-102 or 326-112.

326-303 THE FAMILY IN LITERATURE 3 Cr. Selected literature concerned with the family drawn from several historical periods and cultures. Prerequisite: 326-102 or 326-112.

326-306 REPORTING AND NEWS WRITING 3 Cr. Theory and practice of news gathering and reporting; basic techniques of journalistic writing. Prerequisite: 326-102 or 326-112.

326-310 JOURNALISM PRACTICUM 1 Cr. Repeatable. The student will work on a regularly published newspaper and will submit a number of articles for evaluation and publication. Prerequisite: Must be a journalism minor or have a journalism concentration.

326-320 BUSINESS WRITING 3 Cr. Written communication in business. Effective techniques of writing persuasively in such business situations as requests, cordial contact, sales, and education and training programs. Prerequisites: 326-102 or 326-112.

326-344 CONTEMPORARY RHETORIC 3 Cr. The theory and contemporary practice of the art of written persuasion. Includes a documented investigative paper. Prerequisite: 326-102 or 326-112.

326-345 CREATIVE WRITING 3 Cr. All aspects of imaginative writing. Pre-

requisite: 326-102 or 326-112 and permission of department.

326-346 EXPOSITORY WRITING 3 Cr. Factual writing including preparation of documented investigative paper. Prerequisite: 326-102 or 326-112.

326-347 CRITICAL WRITING 3 Cr. The art of evaluation and judgement. The writing of critical reviews and articles. Includes a documented critical paper. Prerequisite: 326-102 or 326-112.

326-348 AMERICAN LITERATURE 3 Cr. American prose and poetry from its beginnings to World War I. Prerequisite: 326-102 or 326-112.

326-350 MODERN BRITISH LITERATURE 3 Cr. Selected poetry, prose and fiction produced since World War I. Prerequisite: 326-102 or 326-112.

326-351 EUROPEAN LITERATURE IN TRANSLATION 3 Cr. Selected poetry, prose, and drama from Dante to present day. Prerequisite: 326-102 or 326-112.

326-360 MODERN AMERICAN LITERATURE 3 Cr. Selected poetry, prose and drama produced since World War I. Prerequisite: 326-102 or 326-112.

326-372 WOMEN WRITERS 3 Cr. The course will analyze the writing of prominent American and British women novelists and poets of the 19th and 20th century and look at the criticism of women writers. Prerequisite: 326-102 or 326-112.

326-380 BEST SELLERS 3 Cr. A study of best-sellers, both fiction and nonfiction, focusing on their expression of and impact on popular culture. Prerequisite: 326-102 or 326-112.

326-381 RECENT AMERICAN LITERATURE 3 Cr. This course will provide a survey of American Poetry, fiction and drama since 1950.

326-385 SCIENCE FICTION 3 Cr. A critical survey of popular and classic science fiction. Prerequisite: 326-102 or 326-112.

326-400 ENGLISH LITERATURE 3 Cr. Selected English prose and poetry from Beowulf to 1798. Prerequisite: 326-102 or 326-112.

326-401 ENGLISH LITERATURE 3 Cr. Selected prose and poetry from 1798 to modern times. Prerequisite: 326-102 or 326-112.

326-406 SHAKESPEARE 3 Cr. Representative plays of Shakespeare. Study of several plays and selected criticism. Prerequisite: 326-102 or 326-112.

326-410 WRITING AND SELLING FEATURE ARTICLES 2 Cr. Practice in techniques of writing and selling feature articles for appropriate markets. Students are required to submit articles for potential publication. Prerequisite: 326-102 or 326-112.

326-425 COPY EDITING AND PREPARATION 2 Cr. Development of skill in expanding and reducing written materials. Experience in copy reading, proofreading,

headlines. Prerequisite: Consent of instructor.

326-450 STUDIES IN LITERATURE (THEME, AUTHOR, GENRE) 2-3 Cr. A study of a selected writer's work or of literature focusing on a significant theme of literature or of a genre not offered as a distinct course of similar duration within the departmental curriculum. May be taken twice. Prerequisites: 326-101, 326-102 (or 326-111, 326-112), three credits of literature, or consent of instructor.

326-500 LITERATURE FOR THE READING CHILD AND ADOLESCENT 3 Cr. A critical survey of literature appropriate to children from age eight until they begin reading adult literature, including adolescent literature and media presentations of literature. Prerequisite: 326-102 or 326-112.

326-515 TECHNICAL WRITING FOR HOME ECONOMICS 3 Cr. An overview of specialized writing done by home economists in business. Experience in preparing reports, letters, and other appropriate materials. Prerequisite: 326-102 or 326-112 and junior standing.

326-516 TECHNICAL WRITING FOR INDUSTRY 3 Cr. A survey of the type of writing current in industry. Writing of business reports and other materials. Prerequisite: 326-102 or 326-112 and junior standing.

326-518 MASS COMMUNICATION IN AMERICAN SOCIETY 3 Cr. History, social implications, and future of the mass media of communications. Prerequisite: 326-102 or 326-112.

326-525 WRITING TECHNICAL ARTICLES 3 Cr. Designed to give students experience in writing technical articles, and to acquaint them with the requirements for publication in professional media. Students will be expected to research, write, and submit individual projects of suitable length and maturity. These projects must be connected with the student's area of specialization. Prerequisites: 326-515, 326-516 or consent of instructor.

326-541 PSYCHOLINGUISTICS 3 Cr. A study of linguistics behavior and the psychological processes responsible for it. Prerequisite: 326-102 or 326-112.

FRENCH

328-101 ELEMENTARY FRENCH I 4 Cr. Introduction to basic audio-lingual skills, to the essentials of grammar, and to reading for comprehension. Supplementary materials are drawn from the cultural heritage of France. Minimum of one laboratory hour will be required.

328-102 ELEMENTARY FRENCH II 4 Cr. Continuation of 328-101. A minimum of one laboratory hour will be required. Prerequisite: 328-101.

328-201 INTERMEDIATE FRENCH I 4 Cr. Grammar review, vocabulary improvement, oral practice, original composition, and readings that stress French civilization and literature. A minimum of one laboratory hour will be required. Prerequisite: 328-102 or two years of high school French.

328-202 INTERMEDIATE FRENCH II 4 Cr. Continuation of 328-201. A mini-

mum of one laboratory hour will be required. Prerequisite: 328-201.

338-121 UNITED STATES HISTORY 3 Cr. Continuation of 338-120. Not available to students who have completed 338-220.

SPANISH

329-103 ELEMENTARY SPANISH I 4 Cr. An introduction to conversational Spanish as it is spoken today in Mexico and South America.

329-104 ELEMENTARY SPANISH II 4 Cr. An introduction to conversational Spanish as it is spoken today in Mexico and South America. Prerequisite: 329-103.

338-140 WESTERN CIVILIZATION 3 Cr. Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

338-141 WESTERN CIVILIZATION 3 Cr. A survey of Western civilization from the Reformation to the present.

338-210 MODERN WORLD 3 Cr. Modern trends in terms of historical backgrounds, providing a frame of reference for interpreting the contemporary world. United Nations.

GEOGRAPHY

336-104 WORLD GEOGRAPHY 3 Cr. An introduction to the regional and cultural geography of the world, with emphasis upon the physical and human resources of the major areas of the globe.

338-320 HISTORY OF RUSSIA 3 Cr. Survey of the historical development of Russia since 862.

338-322 AFRO-AMERICAN HISTORY 3 Cr. A social, cultural, and political history of the Afro-American in the New World, with the main emphasis upon the United States.

HISTORY

338-105 HISTORY OF AMERICA 3 Cr. Survey of the United States. Not open to those taking the 22-credit minor, nor those who have completed 338-120 or 338-121.

338-325 RECENT HISTORY OF THE UNITED STATES 2 Cr. American history in the 20th Century. Study of recent world development in which the United States has played a part.

338-120 UNITED STATES HISTORY 3 Cr. American history of 1865. Political, economic, and social forces which have shaped the nation to the close of the Civil War. Not available to students who have completed 338-220.

338-340 ENGLISH HISTORY 3 Cr. The social, political, religious, military and economic history of Great Britain from the Restoration in 1660 to modern times.

338-360 ASIAN HISTORY 3 Cr. A historical survey—political, social, religious,

economic. Emphasis on India, China, Japan, and the Philippines during the modern world.

338-380 LATIN AMERICAN HISTORY 3 Cr. A historical survey—political, social, economic—on Middle and South America, pre-Columbian to the present.

338-410 BIOGRAPHY OF WORLD LEADERS 2 Cr. Readings in the biographies and autobiographies of American, European, and modern world leaders.

338-430 WESTERN UNITED STATES HISTORY: THE TRANS-MISSISSIPPI WEST 3 Cr. The development of the Trans-Mississippi West in the 19th Century, to include exploration, missionaries, settlement, fur trade, Indian problems, slavery, admission of new states, mining and cattle industries, agriculture, transportation, communication, culture, and land policies. Prerequisite: Junior standing or consent of instructor.

APPLIED MATHEMATICS

354-x98 COMPUTER SCIENCE FIELD EXPERIENCE 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various careers related to the computer.

354-130 ELEMENTARY STATISTICS 2 Cr. Organization and presentation of data, computation of descriptive statistics, regression and correlation theory and computation, elementary sampling theory; introduction to normal and binomial distributions, tests of hypotheses.

354-140 COMPUTER CONCEPTS 2 Cr. Introduction to computing. History of computers, hardware, software, and terminology. Components and functions of computers. Programming concepts and basic applications. How to run programs written by others. Includes the writing of programs in the basic timesharing language.

354-141 DIGITAL COMPUTER PROGRAMMING 2 Cr. Introduction to computer systems and their utilization. Emphasis on translating language, program writing, and debugging.

354-142 COMPUTER APPLICATIONS IN BUSINESS 4 Cr. Basic characteristics of business data processing systems, with major emphasis on computers. Hardware and software concepts, data flow and systems design, and an introduction to business-oriented programming. Prerequisite: None.

354-143 ACCELERATED PROGRAMMING 4 Cr. FORTRAN language programming including subprograms, plotter output, disk I/O, scientific applications and advanced FORTRAN techniques. Introduction to structured programming languages. (Note: Not open for credit to students with credit in 354-141 or 354-240.) Prerequisite: Some programming background.

354-240 INTERMEDIATE COMPUTER PROGRAMMING 3 Cr. An extension of 354-141 to include subprograms, plotter output, disk I/O, and advanced FORTRAN techniques. Introduction to machine and assembly language programming. Prerequisite: 354-141.

354-241 ASSEMBLY LANGUAGE PROGRAMMING 2 Cr. Assembly language including interrupt concepts, inter-

rupt service routines, and code conversion routines. Prerequisite: 354-240 or 354-143.

dering) techniques. Prerequisite: 354-240, 355-275 or 110-256.

354-245 NUMERICAL METHODS 2
Cr. Computer programming and numerical methods for the solutions of equations, simultaneous equations, interpolation, numerical differentiation and integration, statistical analysis. Prerequisites: 354-141, 355-153 or 355-156.

354-441 COMPUTER ARCHITECTURE AND OPERATING SYSTEMS I
3 Cr. Computer system architecture which includes hardware component layouts, software systems design, and their inter-relationship. Prerequisite: 354-141, 354-241.

354-246 COMPUTER PROGRAMMING - COBOL 3 Cr. Introduction to computer systems and their utilization. The development of programming practices and techniques, flowcharting, and application through a business oriented translating language. Prerequisite: 160-245 or 354-141.

354-442 COMPUTER ARCHITECTURE AND OPERATING SYSTEM II
3 Cr. Advanced computer architecture, I/O control and file systems, memory and processor management, data base management systems, and their inter-relationships. Prerequisite: 354-141, 354-241.

354-331 PROBABILITY AND MATHEMATICAL STATISTICS I 3 Cr. Sets and combinatorial analysis, probability in discrete sample spaces, Bayes' rule, random variables and probability distributions, change of variable, marginal and conditional distributions, expectation, moments and moment generating functions, Chebyshev's theorem, central limit theorem. Prerequisite: 355-153 or 355-156.

354-445 NUMERICAL ANALYSIS 3
Cr. Mathematical theory supporting numerical methods of computer programming for solution of equations, simultaneous equations, numerical differentiation and integration, and approximation procedures. Prerequisites: 354-245, 355-255, 355-275.

354-332 PROBABILITY AND MATHEMATICAL STATISTICS II 3 Cr. Sampling distributions, order statistics, introduction to decision theory, estimation, hypothesis testing, nonparametric methods, regression and correlation, analysis of variance. Prerequisite: 355-154 or 355-157, and 354-331.

354-475 APPLIED MATHEMATICS INTERNSHIP 2-8 Cr. Off-campus work and study in an approved position to gain experience in using computer and/or statistical techniques in the analysis of and solution of real world problems. Student interns receive salaried appointments with cooperating companies for periods from a summer to a summer plus one semester. Prerequisite: Junior standing.

354-341 DATA STRUCTURES 3 Cr. Review of set theory, functions, and relations. Basic concepts of data. Lists, strings, and arrays. Representation of graphs and trees. Storage systems and structures. Symbol tables and searching techniques. Sorting (or-

354-490 MATHEMATICAL MODELS I
2 Cr. Supervised experiences in the construction of mathematical models for the solution of problems in the area of student needs and interests. Resource materials. Prerequisite: Senior standing in Applied Mathematics major.

354-491 MATHEMATICAL MODELS II 2 Cr. Continuation of Mathematical Models I. Prerequisite: 354-490.

354-530 STATISTICAL METHODS 3 Cr. Histograms, mean and standard deviation, combinatorics, probability, binomial, hypergeometric, normal, chi-square, T, and F distributions and their uses. Statistical inference. Contingency tables, linear models, analysis of variance, with appropriate applications. Prerequisites: three years of high school math, 355-120 or equivalent.

354-531 DESIGN OF EXPERIMENTS I 2 Cr. Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means, blocking, Latin and other squares, factorial designs. Prerequisite: 354-332 or consent of instructor.

354-532 DESIGN OF EXPERIMENTS II 2 Cr. Fixed-effect, random effect, and mixed models, nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis. Prerequisite: 354-531.

354-535 APPLIED STOCHASTIC PROCESSES I 2 Cr. Stochastic processes, Markov chains, stationary distributions, construction of Markov processes, Poisson and birth and death processes, review of statistical inference as applied to these processes. Prerequisite: 354-332 or 354-530 and consent of instructor.

354-536 APPLIED STOCHASTIC PROCESSES II 2 Cr. Application of topics introduced in Applied Stochastic Processes I: theory of reliability, branching processes, social and behavioral processes, queueing processes. Prerequisite: 354-535.

354-590 TOPICS: 1, 2 or 3 Cr. Topics of current importance in the applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of the program director.

354-640 COMPUTER USE IN EDUCATION 3 Cr. Use of the computer in administrative, research, and instructional aspects of education.

MATHEMATICS

355-010 FUNDAMENTALS OF ALGEBRA 2 Cr. A review of the fundamental principles of elementary algebra.

355-118 CONCEPTS OF MATHEMATICS 4 Cr. Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers. Includes historical survey. Prerequisite: One year high school algebra minimum.

355-119 BUSINESS MATHEMATICS 4 Cr. Review of arithmetic and basic algebra. Simple and compound interest. Inventory control and purchase planning. Applications to retailing, marketing, accounting, finance, consumerism, and insurance.

355-120 INTRODUCTORY COLLEGE MATHEMATICS I 4 Cr. Set theory, logic and methods of proof, number systems and equations, use of time-shared computer, vectors, matrices and inequalities. Prerequisite: Demonstrated proficiency.

355-121 INTRODUCTORY COLLEGE MATHEMATICS II 4 Cr. Open

sentences, relations and functions, algebra of functions—trigonometric, exponential, and logarithmic. Prerequisite: 355-120.

355-123 FINITE MATHEMATICS WITH APPLICATIONS 4 Cr. Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov chains. Prerequisite: 355-120 or consent of department.

355-153 CALCULUS I 4 Cr. Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to students who have completed 355-156, 355-157, or 355-158. Prerequisite: 355-121 or equivalent.

355-154 CALCULUS II 4 Cr. Continuation of Calculus I. Antiderivatives; integration theory, techniques, and applications; parametric equations; vectors. Prerequisite: 355-153.

355-156 CALCULUS AND ANALYTIC GEOMETRY I 5 Cr. Review of real numbers, inequalities, absolute values, intervals, and continuity. Analytic geometry of the plane. Limit concepts, derivatives of algebraic functions; definite integral. Not open to students who have completed 355-153 or 355-154. Prerequisite: Demonstrated proficiency.

355-157 CALCULUS AND ANALYTIC GEOMETRY II 5 Cr. Application of the derivative and definite integral. Conic sections, and other algebraic curves. Calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration. Prerequisite: 355-156.

355-158 CALCULUS III 3 Cr. Continuation of formal integration. Parametric equations, polar representation, Cauchy's formula, Taylors theorem, infinite series, vectors, partial differentiation multiple integration. Prerequisite: 355-154 or 355-157.

355-255 DIFFERENTIAL EQUATIONS 3 Cr. Common types of ordinary differential equations of the first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations. Prerequisite: 354-141 or concurrent registration in 354-141 and either 355-154 or 355-157.

355-262 MODERN GEOMETRY 3 Cr. The development of a logical discourse. Betweenness properties and plane separation. Geometric models of axiomatic systems. Modern geometry of the triangle and circle. Transformations - linear, circular. Orthogonal systems of circles. Elliptic and hyperbolic geometry. Prerequisite: 355-153 or 355-156.

355-275 LINEAR ALGEBRA 3 Cr. Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms. Prerequisite: 355-153 or 355-156.

355-370 MODERN ALGEBRA I 3 Cr. Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings. Prerequisite: 355-154 or 355-157.

355-371 MODERN ALGEBRA II 3 Cr. Continuation of Modern Algebra I. Rings,

integral domains, fields, polynomials, groups, vector spaces. Introduction to the algebra of matrices. Prerequisite: 355-370.

355-450 REAL ANALYSIS I 3 Cr. Rigorous development of advanced topics in analysis. Functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions. Prerequisite: 355-154 or 355-157.

355-451 REAL ANALYSIS II 3 Cr. Continuation of the topics of Real Analysis I. Differentiation, integration, infinite series. Prerequisite: 355-450.

355-460 COMPLEX VARIABLES WITH APPLICATIONS 3 Cr. Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues. Prerequisite: 355-255.

MUSIC

The objective of the Stout music department is to provide musical experience and opportunities for the development of understanding and appreciation of music. The study of this art not only enhances intellectual acumen but also provides aesthetic enjoyment and aids in the development of social coordination through group effort. The organization seeks to further the interest of musical culture and entertainment and to enhance the spirit and character of the university.

The musical organizations are open to any student in the university who can qualify and may be taken for credit as academic electives. All students are invited to attend concerts and may elect music courses and organizations for university credit.

360-101 CLASS PIANO I 1 Cr. Group instruction in piano technique and repertoire at the beginner's level. One one-hour lesson per week. Additional practice time required.

360-102 CLASS VOICE I 1 Cr. Group instruction in vocal technique and repertoire, with emphasis on small ensemble performance. Optional recital participation.

360-103 CLASS GUITAR I 1 Cr. Group instruction in guitar technique and repertoire at the beginner's level. One one-hour lesson per week. Additional practice time required.

360-104 CLASSROOM INSTRUMENTS 1 Cr. Group instruction in auto-harp and Orff instrument techniques and materials. Emphasis is placed upon the use of these instruments in the elementary and pre-school classroom.

360-111 ADVANCED PIANO I 1 Cr. Private instruction in piano technique and repertoire. One half-hour lesson per week. Additional practice time required. Optional recital participation.

360-112 ADVANCED VOICE I 1 Cr. Private instruction in vocal technique and repertoire. One half-hour lesson per week. Additional practice time required. Optional recital participation.

360-113 ADVANCED BRASSWINDS I 1 Cr. Private instruction in brass technique and repertoire. One half-hour lesson per week. Additional practice time required. Optional recital participation.

360-114 WOODWINDS I 1 Cr. Private instruction in woodwind technique and rep-

ertoire. One half-hour lesson per week. Additional practice time required. Optional recital participation.

360-120 RUDIMENTS OF MUSIC 1 Cr. A study of the fundamental elements of music: i.e., rhythm, pitch, basic chords. Vocal and keyboard application. Orientation is toward the preparation of the pre-school teacher.

360-122 HARMONY I 1 Cr. A detailed study of intervals and their nomenclature, chord construction, chord naming and chord sequence.

360-130 MUSIC APPRECIATION 2 Cr. The materials of music as they pertain to perceptive listening. Study is related to a view of music and musicians from medieval times through the contemporary period and seeks to lead the student to a significant awareness of great music.

360-201 CLASS PIANO II 1 Cr. Continuation of 360-101 at an intermediate level. One one-hour lesson per week. Additional practice time required.

360-203 CLASS GUITAR II 1 Cr. Group instruction in guitar technique and repertoire of an intermediate level. One one-hour lesson per week. Additional practice time required.

360-204 MUSIC FOR THE YOUNG CHILD 3 Cr. Music fundamentals; individual and group instruction and performance on Orff instruments and the autoharp. Includes repertoire for preschool classroom music.

360-211 ADVANCED PIANO II 1 Cr. Continuation of 360-111.

360-212 ADVANCED VOICE II 1 Cr. Continuation of 360-112.

360-213 BRASSWINDS II 1 Cr. Continuation of 360-113.

360-214 WOODWINDS II 1 Cr. Continuation of 360-114.

360-264 STAGE BAND 1 Cr. Primarily organized to study and perform the music of the large dance band. Membership by audition only. Membership open to any qualified Stout student.

360-265 COLLEGE CHOIR 1 Cr. Advanced choral techniques, reading and analysis of choral music of all types and periods. Concert and radio appearances. Membership by audition only.

360-266 STOUT CONCERT BAND 1 Cr. Membership by audition only. Fundamentals of musical expression, tone production and quality, and special problems of technique. Formal concerts and radio broadcasting. Each spring instrumentalists are selected for the annual spring tour.

360-267 STOUT SYMPHONIC SINGERS 1 Cr. Membership by audition only. Advanced choral techniques, reading and analysis of choral music of all types and periods. Each spring vocalists are selected for the annual spring tour.

360-268 SOLO AND ENSEMBLE 1 Cr. Coaching of advanced performers, both vocal and instrumental, for public performance and radio work.

360-269 CHAMBER SINGERS 1 Cr. Study and performance of music appropri-

ate to the small vocal ensemble; repertoire consisting of a balanced selection from all major stylistic periods.

360-303 CLASS GUITAR III 1 Cr. Group instruction in guitar technique and repertoire at an advanced level. One one-hour lesson per week. Additional practice time required.

360-311 ADVANCED PIANO III 1 Cr. Continuation of 360-211.

360-312 ADVANCED VOICE III 1 Cr. Continuation of 360-212.

360-313 BRASSWINDS III 1 Cr. Continuation of 360-213.

360-314 WOODWINDS III 1 Cr. Continuation of 360-214.

PHILOSOPHY

365-201 INTRODUCTION TO PHILOSOPHY 3 Cr. Introduction to various fields of philosophy, the history of philosophy, and the nature of philosophical investigation.

365-301 INTRODUCTION TO LOGICAL THINKING AND SCIENTIFIC METHODOLOGY 3 Cr. An examination of the forms of deductive reasoning and the fallacies together with a consideration of the inductive logic of evidence, confirmation, and probability.

365-315 EASTERN PHILOSOPHY 3 Cr. Philosophies of India, China and Japan

focusing on Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism. Prerequisite: Sophomore standing.

365-325 EXISTENTIALIST PHILOSOPHERS 3 Cr. A survey of major existentialist philosophers and their impact on contemporary thought and values.

365-350 AMERICAN PHILOSOPHERS 3 Cr. Major American philosophers and their impact on the evolving American culture.

365-375 PERSONAL AND PROFESSIONAL ETHICS 3 Cr. The ethical valuing process and major ethical standards as applied to personal and professional life.

365-550 ETHICAL VALUING 2 Cr. Inquiry into valuing as a human activity including a study of ethical value bases, of value clarification and application processes and of student-designed valuation problems. Prerequisite: Sophomore standing.

365-552 APPLICATIONS IN VALUING 1 Cr. Student-designed valuing project in professional area other than education utilizing value theory, value perspectives and value process studied in 365-550. Prerequisite: 365-550.

PHYSICAL EDUCATION

366-101 HEALTH SURVEY 1 Cr. The relationship of personal health in the whole person. Of particular interest to the professional leader in education and community health practices.

366-102 PERSONAL HEALTH 2 Cr. This course emphasizes the prevention and care of the significant physiological and sociological effects of selected personal health problems in our society.

366-340 ARC STANDARD FIRST AID AND PERSONAL SAFETY 2 Cr. American Red Cross certification for Standard First Aid and Personal Safety to help an individual increase their personal safety and accident prevention knowledge and to care for himself or others if emergency first aid care is needed.

366-346 ARC CARDIOPULMONARY RESUSCITATION .5 Cr. Techniques of basic life support consisting of the recognition of respiratory and/or cardiac arrest and the proper application of cardiopulmonary resuscitation (CPR) to maintain life. Successful completion results in a one-year authorization in ARC Basic Life Support Course in Cardiopulmonary Resuscitation.

366-350 ATHLETIC TRAINING AND CONDITIONING 2 Cr. To provide the student who is considering entering into the field of Physical Education and/or coaching, a basic understanding of the prevention, treatment and care of athletic injuries. Prerequisite: 366-340 First Aid and Safety.

366-355 KINESIOLOGY 3 Cr. A study of body movements and the principles affecting it. Prerequisite: 308-132 Physiology and Anatomy.

366-365 PHYSIOLOGY OF EXERCISE 3 Cr. The effects of exercise on sport participants with emphasis on heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors. Prerequisite: 308-132.

The following courses are all 1/2 credit. Exceptions are noted.

- 367-103 ARCHERY-BEGINNING
367-105 BOW HUNTING 1 Cr.
Conservation, safety, selection and care of equipment, techniques, and practical bow hunting experience. Prerequisite: 367-103 or equivalent.
- 367-107 BADMINTON
367-109 BASKETBALL
367-113 BOWLING
367-115 CANOE TECHNIQUES 1 Cr.
367-121 EXERCISE AND FITNESS
367-123 FENCING
367-125 FLAG FOOTBALL
367-126 FOOTBALL
367-128 FOLK DANCE
367-130 GOLF-BEGINNING
367-131 GOLF-INTERMEDIATE
367-133 JUDO I .5 Cr. Judo concepts of discipline and respect; basic techniques of falling, throwing, holding, and choking.
- 367-134 WOMEN'S GYMNASTICS (Women's Events) 1 Cr.
367-135 JOGGING
367-136 KARATE .5 Cr.
367-138 INTERPRETIVE DANCE
367-140 ORIENTEERING 1 Cr.
367-142 OUTDOOR SKILLS 1 Cr.
367-146 RACKET AND HANDBALL
367-148 RELAXATION
367-150 RIDING
367-151 PERSONAL DEFENSE .5 Cr.
Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks.
- 367-152 SKIING
367-153 SKIING-CROSS-COUNTRY 1 Cr. Selection of equipment, waxing, flatland, uphill and downhill techniques and touring experiences in Nordic Skills.
- 367-154 SOCIAL DANCE
367-159 SOFTBALL
367-163 SWIMMING-BEGINNING

- 367-164 SWIMMING-ADV.
BEGINNING
- 367-165 SWIMMING-
INTERMEDIATE
- 367-167 SWIMMING-ADVANCED
- 367-171 SYNCHRONIZED
SWIMMING
- 367-172 WATER GAMES
- 367-173 SKIN AND SCUBA DIVING
1 Cr.
- 367-176 TENNIS-BEGINNING
- 367-177 TENNIS-INTERMEDIATE
- 367-180 TRACK AND FIELD
- 367-182 TUMBLING 1 Cr. A lab course designed to develop tumbling skills to include forward, backward and sideways rotational, springing and vaulting movements from the hands and feet. Basic to advanced aerial tumbling.
- 367-185 VOLLEYBALL
- 367-187 WEIGHT TRAINING
- 367-189 WRESTLING
- 367-226 RACKET SPORTS 2 Cr. Skills, rules, and teaching methods in badminton, racketball/handball and tennis.
- 367-235 RHYTHMIC ACTIVITIES 2 Cr. A teaching methods course in the fields of rhythms-modern, folk, square and social dance.
- 367-241 SENIOR LIFE SAVING 1 Cr. A Red Cross training program which provides the student with knowledge and skills designed to save his own life or the life of another in the event of an emergency. Prerequisite: ARC Swimmers Level Ability.
- 367-255 TEAM SPORTS 2 Cr. Fundamentals and teaching knowledge of the following sports: touch football, soccer, softball, speedball, volleyball, basketball, hockey, and games leading up to team sports.
- 367-260 RECREATIONAL GOLF 1 Cr. Fundamental principles of golf including skills, history, etiquette and practical application of techniques. The student is required to play 27 holes of golf, pay green fees, and furnish three golf balls for class use.
- 367-265 PHYSICAL ACTIVITIES FOR PRESCHOOL CHILDREN 2 Cr. A study of the sequential development of physical perceptual skills for children from birth to age five, and perceptual motor activities which can be used to foster this development.
- 367-315 ADAPTED PHYSICAL EDUCATION 3 Cr. A study of diversified developmental activities suited to the interests, capacities and limitations of students with disabilities who may or may not safely or successfully engage in unrestricted activities of a general physical education program.
- 367-325 RECREATIONAL LEADERSHIP 2 Cr. Objectives, principles, methods, and content of a recreational program. Problems of facilities, equipment, and leadership. Organization and administration of a recreational program for various age levels.
- 367-340 CAMP LEADERSHIP 2 Cr. Role of camp counselors in relationship to objectives, organization, guidance, leadership skills, and program resources in organized camps; actual practice in camp-craft skills.
- 367-342 WATER SAFETY INSTRUCTOR 2 Cr. The American Red Cross training course for water safety instructors consists of Part I — teaching and testing of swimming, life saving skills, and general knowledge of water safety; and Part 2 —

theoretical and practical knowledge and assistance in teaching of Red Cross life saving and water safety courses. Prerequisite: Senior Life Saving.

367-345 BASKETBALL OFFICIATING 1 Cr. The course will include rules, and officiating techniques for both men's and women's basketball and will prepare students for acquiring DGWS and/or WIAA officiating certifications. Prerequisite: Team Sports or consent of instructor.

367-346 FOOTBALL OFFICIATING 1 Cr. Application of football officiating rules and techniques. Prerequisite: Consent of instructor.

367-350 PRINCIPLES OF PHYSICAL EDUCATION AND ATHLETICS 2 Cr. The principles of physical education based on scientific facts and expression of educational ideals. Aims and objectives of physical education as applied to various school levels.

367-360 PROBLEMS IN ATHLETICS 2 Cr. Identification, interpretation, and discovery of solutions for problem areas in athletics including intellectual strategies, human relationships, competitive unity, sexual discrimination and sport characteristics.

367-370 ELEMENTARY SCHOOL PHYSICAL EDUCATION 2 Cr. Methods and materials for teaching physical education in the elementary school.

367-375 HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION 3 Cr. Physical Education from ancient to modern times stressing relationship to the social situation and to the major philoso-

phies. Prerequisite: Junior standing or consent of instructor.

367-401 COACHING GYMNASTICS 2 Cr. Elements of gymnastic tumbling and the use of gymnastic apparatus as a part of a modern program of physical education.

367-408 METHODS OF TEACHING PHYSICAL EDUCATION 2 Cr. Class organization and methods of teaching physical education. Participation with actual classes through the required freshman program.

367-450 ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION AND ATHLETICS 2 Cr. The problems that arise in everyday experience of the instructor in physical education. The relationship of physical education to general education; objectives of physical education; utilization, planning and care of facilities and equipment; time allotment, classification of activities and children, leadership, organization, supervision, routine procedures.

367-460 COACHING BASKETBALL 2 Cr. Fundamentals and methods of teaching and coaching of basketball. Specified techniques analyzed. Definite plan of offense and defense presented. Rules, practice schedules, fundamentals, theories, and their application.

367-461 COACHING FOOTBALL 2 Cr. Fundamentals and methods of teaching and coaching football. Specified techniques analyzed. Definite plan of offense and defense presented. Rules, practice schedules, fundamentals, theories, and their application.

367-465 COACHING COMPETITIVE SWIMMING 2 Cr. Principles and techniques of coaching competitive swimming. Prerequisite: WSI or one year of competitive swimming.

367-470 COACHING BASEBALL 2 Cr. Fundamentals and methods of teaching and coaching baseball. Specific techniques analyzed. Definite plan of offense and defense presented. Rules, practice schedules, fundamentals, theories, and their application.

367-471 COACHING TRACK AND FIELD 2 Cr. Fundamentals and methods of teaching track and field. Specific techniques analyzed. Definite plan of offense and defense presented. Rules, practice schedules, fundamentals, theories, and their application.

367-478 COACHING AND OFFICIATING VOLLEYBALL 2 Cr. Skills and techniques of coaching and officiating competitive volleyball. Prerequisite: One year competitive volleyball or 367-185.

367-490 PRACTICUM IN COACHING 1-3 Cr. On-or off-campus work and study experiences in athletic coaching settings with competitive teams. Prerequisite: Completion of the coaching course appropriate to the area of practicum.

PHYSICS

372-221 MECHANICS AND ELECTRICITY 5 Cr. A study of the basic concepts in mechanics and electricity. Prerequisites: 355-121 or equivalent and mathematical skills test.

372-222 HEAT AND THERMODYNAMICS 2 Cr. Concepts of temperature and heat, temperature dependent properties and processes; heat transfer; laws relating heat and other forms of power. Prerequisite: 372-221.

372-223 LIGHT AND SOUND 3 Cr. General laws of physics in the fields of sound and light. Acoustics, vision, lighting standards, lenses, optical instruments, polarization, and fluorescence. Prerequisite: 372-221.

372-251 TOPICS IN ASTRONOMY 1 Cr. Selected topics in the field of astronomy are described qualitatively, emphasizing the physical principles involved in understanding this system. The significance of space exploration, radio telescopes, and other modern methods of obtaining astronomical information is brought out.

372-252 LASER LIGHT AND WAVES 1 Cr. The wave properties of laser light are described. Interference and diffraction are introduced as general properties of waves; then it is shown that the properties of laser light imply that interference and diffraction effects are very important in laser light. Applications of laser light, including holography, will be stressed.

372-253 COMPARATIVE ENERGY TECHNOLOGIES 1 Cr. Physical processes, applications, limits and problems associated with alternate energy technologies are examined, including possible effects on society.

372-254 EARTH PHYSICS 1 Cr. The physical processes that determine the properties of the earth. Rock formation, mountain building, earthquakes, weather effects, and other geologic topics are discussed in the framework of physics.

372-261 SCIENCE OF HIGH FIDELITY AND MUSIC 2 Cr. Application of principles of physics to musical sounds, musical instruments, and the production and high fidelity reproduction of music.

372-325 STRENGTH OF MATERIALS 3 Cr. Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams. Prerequisite: 372-221, 355-153 or 355-156.

372-467 MATHEMATICAL PHYSICS 3 Cr. Methods of solution of boundary value problems, including Fourier series and Fourier integrals. The concept of orthogonal functions is introduced and utilized extensively in these solutions. Prerequisite: 355-255, 372-537.

372-518 MICROPROCESSORS AND APPLICATIONS 3 Cr. Equipment, interfacing, and programming for microprocessor systems. Prerequisite: Ten credits in lab-based physics or electronics and two credits in computer programming (or equivalent competencies).

372-527 PHYSICAL ELECTRONICS 3 Cr. Theory and application of semi-conductors, vacuum and gas tubes. Basic principles of electronic circuits. Prerequisites: 355-153, 372-221; 110-240 or 110-244.

372-529 ATOMIC AND NUCLEAR PHYSICS 3 Cr. Elements of atomic and nuclear physics and the industrial application of atomic energy. Prerequisites: 372-223, 355-153.

372-531 STATICS 3 Cr. Essential elements of statics including simple force system, theory and application of non-concur-

rent forces, couples, friction, non-coplanar forces, trusses, and other structures. Prerequisites: 372-221, 355-153, 354-141.

372-533 DYNAMICS 3 Cr. Essential elements of dynamics including rectilinear, angular, and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum. Prerequisite: 372-531.

372-535 ELECTROMAGNETIC RADIATION AND OPTICS 3 Cr. The properties of electromagnetic radiation are introduced, both from the standpoint of physical optics and also from the viewpoint of radiation from an antenna system. The close relationship between these two approaches is stressed. Prerequisites: 372-223, one year of calculus.

372-537 ELECTRICITY AND MAGNETISM 3 Cr. The properties of electric and magnetic fields in free space and in material media. Prerequisites: 372-221 or 355-154 co-requisite.

POLITICAL SCIENCE

375-210 GOVERNMENT 3 Cr. Functioning of governmental units in the U.S.A. Political principles, processes, problems; constitutional principles. Comparison of selected foreign governments.

375-220 STATE AND LOCAL GOVERNMENT 3 Cr. State and local governments within the U.S. federal system. Prerequisite: 375-210 recommended.

375-260 PROBLEMS OF AMERICAN FOREIGN POLICY 3 Cr. Analysis of U.S. foreign policy objectives and decision

making; emphasis on problems of national defense, Third World relationships, economic and resource policies, Presidential-Congressional authority intelligence operations and public opinion.

375-270 INTRODUCTION TO COMPARATIVE GOVERNMENT 3 Cr. Analysis and comparison of basic political principles, institutions and problems of major Western, Communist and underdeveloped nations; consideration of alternative approaches to political order and change.

375-310 POLITICAL PARTIES AND PRESSURE GROUPS 3 Cr. Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses. Prerequisite: 375-210.

375-320 CIVIL LIBERTIES IN THE UNITED STATES 3 Cr. The constitutional basis of the rights of minority groups; emergent trends in voting rights; free speech, freedom of religion, censorship, rights of defendants, and limitations of dissent. Prerequisite: 375-210 or junior standing and by consent of instructor.

375-340 INTERNATIONAL RELATIONS 3 Cr. World survey of conditions determining power relationships, i.e., balance of power, collective security, and deterrence; analysis of the role of international organizations in world politics.

375-550 POLITICS AND TECHNOLOGY 3 Cr. A contemporary and future look at technological innovations will show an increased relationship between the political institutions of a country and the promotion, regulation, and impact of industry and technology. This relationship will be explored in the United States as well as

other selected countries. Prerequisite: Junior or senior standing.

SOCIOLOGY/SOCIAL WORK

387-110 INTRODUCTORY SOCIOLOGY 3 Cr. Social interaction in human groups. Relationships between the individual and the group; basic institutions; social change and current trends.

387-205 INTRODUCTION TO SOCIAL WORK 3 Cr. The field of social work as a profession; history and philosophy of social services; basic information for teachers, counselors, and those interested in the profession. Prerequisite: 387-110.

387-215 SOCIOLOGY OF THE FAMILY 3 Cr. The family as an institution. History; variations in other cultures; relationships to other institutions. Interactions of members in various stages of the life cycle. Prerequisite: 387-110.

387-250 SOCIAL PSYCHOLOGY 3 Cr. The theory of social interaction and its applications with special emphasis on communication. Prerequisite: 387-110.

387-275 SOCIOLOGY OF SEX ROLES 2 Cr. A sociological analysis of the social roles played by the sexes. Prerequisite: 387-110.

387-420 CHILD AND FAMILY AGENCIES 2 Cr. This course seeks to study the social and legal status of children in American society, and the various social services which are designed to facilitate the child's optimum growth and development. The nature and needs of families will be consid-

ered and several family service agencies studied.

387-430 SOCIAL CASEWORK METHODS 3 Cr. Dynamics of social casework; the ability to mobilize capacities in individuals and the resources of the community to promote adjustment between clients and the environment. Prerequisite: 387-205.

387-515 CRIMINOLOGY 3 Cr. A sociological analysis of the structure and function of criminal law, variables related to criminal behavior, and the operation of the system of criminal justice. Prerequisite: 387-110.

387-525 SOCIOLOGY OF LEISURE 3 Cr. An institutional approach to the effects of leisure on social structure; the values reflected in leisure; problems attending the increase in leisure resources. Prerequisite: 387-110.

387-530 SOCIOLOGY OF THE COMMUNITY 3 Cr. Structure of the community, chiefly in the U.S. Variability and current trends; research techniques; community development. Prerequisite: 387-110.

387-540 SOCIOLOGY OF WORK 3 Cr. Human behavior in various types of employment and occupations; trends in the occupational structure of the U.S. Prerequisite: 387-110.

387-560 SOCIOLOGY OF JUVENILE DELINQUENCY 3 Cr. Definitions and trends of deviant behavior among youth; research findings; efforts toward prevention, control, and treatment. Prerequisite: 387-110.

387-575 SOCIOLOGY OF MINORITY GROUPS 3 Cr. Social-psychological aspects of the interaction between majority and minority groups; trends of minorities in the United States. Prerequisite: 387-110.

SPEECH

391-100 FUNDAMENTALS OF SPEECH 2 Cr. Techniques of effective speech based upon diagnosis of individual needs and training for the improvement of the necessary skills. Emphasis on speaker-listener relations, speech organization, voice, bodily action, language, and the development of confidence and poise.

391-101 FORENSICS 1-2 Cr. a semester and a maximum of 6 cr. Training in speech through participation in intercollegiate forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking and preparation of speech programs.

391-102 FORENSICS 1-2 Cr. a semester and a maximum of 6 Cr. Training in speech through participation in intercollegiate forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking and preparation of speech programs.

391-103 FORENSICS 2 Cr. a semester and a maximum of 6 cr. Training in speech through participation in intercollegiate forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking and preparation of speech programs.

391-104 FORENSICS 1-2 Cr. a semester and a maximum of 6 Cr. Training in speech through participation in intercollegiate

forensics, including oral interpretation, oratory, extempore speaking, after-dinner speaking and preparation of speech programs.

391-110 SPEECH FOR INTERNATIONAL STUDENTS 1 Cr. Practical experience in communications in various situations. Individual and group attention to speaking and listening through the use of phonetics and tape recordings. Length of course varies with individual progress.

391-120 RADIO PRACTICUM: PROGRAM PARTICIPATION 1 Cr. Program participation at a radio station.

391-121 RADIO PRACTICUM: ADVANCED PROGRAM PARTICIPATION 1 Cr. Advanced program participation at the University Radio Station, WVSS.

391-122 RADIO PRACTICUM: PROGRAM PRODUCTION 1 Cr. Participation in program production at University Radio Station, WVSS.

391-123 RADIO PRACTICUM ENGINEERING 1 Cr. Participation as a recording, maintenance, and/or repair engineer at University Radio Station, WVSS.

391-124 RADIO PRACTICUM: NEWS/SPORTS 1 Cr. To participate in the news/sports programs at University Radio Station, WVSS.

391-125 RADIO PRACTICUM: MANAGEMENT 1 Cr. Participation in one of the 12 management positions at the University Radio Station, WVSS.

391-131 THEATER PRACTICUM .5-1 Cr. Participation in acting, stagecraft, lights, sound, make-up, costumes, properties, and business in university theater productions.

391-200 PERSUASIVE SPEAKING 2 Cr. Advanced techniques of speaking. Development of proficiency in audience analysis, speech composition and delivery of various types of speeches. Prerequisite: 391-100.

391-202 ORAL INTERPRETATION 2 Cr. Individual and group activities for developing skill in a variety of speech situations. Projects in analysis and delivery of literature. Special consideration of individual problems. Prerequisite: 391-100.

391-204 TECHNIQUES OF GROUP LEADERSHIP 2 Cr. Techniques for presiding at various meetings through use of parliamentary law. Training in the art of persuasion as a means of motivating and guiding the behavior of others. Prerequisite: 391-100.

391-206 DISCUSSION 2 Cr. Principles and techniques of discussion and debate: Leading and participating in the symposium, panel roundtable, and other discussion forms, preparing and presenting debates on current problems. Prerequisite: 391-100.

391-208 THEORY OF COMMUNICATION 3 Cr. A study of the way people communicate with each other, stressing individual, interpersonal, and public communication. Prerequisite: 391-100.

391-210 INTERPERSONAL SPEECH COMMUNICATION 1-2 Cr. The basic aspects of non-structured, informal speech

communication, emphasizing the improvement of verbal and non-verbal speech techniques. Prerequisite: 391-100.

391-232 INTRODUCTION TO THEATRE 3 Cr. Development of the theatre from ancient times to the present. Emphasis on play styles, production methods, and audience appreciation; including reading of representative plays.

391-244 RADIO PROGRAMMING AND PRODUCTION 3 Cr. Planning, writing, and producing various types of radio programs. Programs may be broadcast from University radio station. Prerequisite: 391-100.

391-310 INTRODUCTION TO SPEECH CORRECTION 2 Cr. The nature, causes, and methods of correcting voice and articulation defects. Prerequisite: 391-100.

391-334 CONTEMPORARY THEATRE 2 Cr. Analysis of selected plays including structure, dramatic content, and production methods. Field trips to current plays. Prerequisite: 391-100.

391-336 STAGECRAFT AND SCENE DESIGN 2 Cr. Technical problems in producing plays; designing the set; construction, painting, and handling scenery; stage lighting; make-up; costuming; sound and visual effects; and organization of the production staff. Prerequisite: 391-100.

391-338 PLAY PRODUCTION 2 Cr. Directing and staging of plays: selecting, rehearsing, and acting techniques. Prerequisite: 391-100.

391-475 DIRECTION OF SPEECH ACTIVITIES 2 Cr. Organization, administration, procedures, and judging of speech activities such as plays, oratory, interpretation, public speaking, discussion and debate. Prerequisite: 391-100.

391-500 CREATIVE DRAMA FOR CHILDREN 2 Cr. Theory and techniques of developing original dramatizations for children.

391-508 SPEECH SKILLS FOR BUSINESS AND INDUSTRY 2 Cr. Teaching in technical speaking; projects emphasizing the application of speech skills and activities in business and industry. Prerequisite: 391-100 and junior standing.

391-512 SPEECH SKILLS FOR EDUCATORS 2 Cr. Application of leadership techniques and speech skills in classroom and educational activities. Prerequisite: 391-100 and Junior standing.

391-514 INTERVIEWING 1 Cr. Principles and techniques of interviewing for the interviewee in the employment interview. Prerequisite: 391-100.

391-554 TELEVISION PROGRAMMING AND PERFORMANCE 3 Cr. Planning, writing, and performing in instructional, public service, special feature, or dramatic television programs. Prerequisite: 391-100, junior standing or permission of instructor.

EDUCATION

PROFESSIONAL TEACHER EDUCATION

To qualify for teacher education, students must meet a number of pre-admission requirements. Official entry to teacher education generally occurs the first or second semester of the junior year, even though in some programs students may have taken education courses as freshmen or sophomores.

Pre-admission requirements are as follows:

The student must have a grade point average of 2.25, which must be maintained through the senior year.

The student must have approval from Student Health Services. If a physical examination blank, properly filled out and signed by a physician is on record in the Student Health Services, and no known health problems exist, this approval is provided by Student Health Services to the Dean of Student Affairs. Individuals facing special and temporary problems in health may apply for admission to the Program Screening Committee through the Program Director or their advisor.

Teacher education students may be regarded as having satisfactorily fulfilled the written communication skills requirement if they have earned a grade of at least "C" in both English 326-101 and 326-102, or 326-111 and 326-112.

Teacher education students must also demonstrate speech proficiency. Student proficiency is rated in the first required speech course. Students rated as unsatisfactory may enroll in the non-credit evaluation program or take a second speech

course (391-200, 391-202 or 391-206) to attempt to achieve proficiency.

Teacher education students are reminded of recent changes in certification requirements which affect their program completion and their eventual certification. Students are advised to consult with their respective program directors about the following requirements: (a) human relations preparation; (b) reading requirement; (c) "mainstreaming" - meeting the educational needs of special students. The first two requirements are currently in place. The third requirement is approved and becomes effective with all persons seeking initial certification in Wisconsin on/after July 1, 1981. Additional information concerning the above requirement may be secured from the University Certifying Officer.

Complete curricula for specific teacher education programs are found under Art Education, Distributive Education, Early Childhood Education, Home Economics Education, Industrial Education, Special Education, Vocational Education. (Department numbers in this section reflect the subject matter area.)

ART EDUCATION

405-208 PRE-TEACHING OBSERVATION SEMINAR 3 Cr. An introduction by observation of art education teaching practices out in the field coupled to a variety of hands-on teaching assistant duties with young children. Students will experience actual teaching problems through observation, team teaching and micro-teaching episodes.

405-408 PRACTICE TEACHING IN THE ELEMENTARY SCHOOL—ART 4 Cr. Directed teaching and community experience in selected off-campus elementary

schools. Prerequisites: 405-608 and 405-609.

405-409 PRACTICE TEACHING IN THE SECONDARY SCHOOL—ART 4 Cr. Directed teaching and community experience in selected off-campus secondary schools. Prerequisites: 405-608 and 405-609.

405-608 INTRODUCTION TO TEACHING ART IN THE ELEMENTARY SCHOOLS 3 Cr. Development of basic knowledge and skills needed to foster and extend creative growth in children.

405-609 INTRODUCTION TO TEACHING ART IN THE SECONDARY SCHOOLS 3 Cr. Development of art principles and practices that expand creative growth and development in secondary school students.

405-611 CURRICULUM DEVELOPMENT FOR ART 2 Cr. A study of the needs and methods used in developing a sequential K-12 art curriculum.

COUNSELING AND PERSONNEL SERVICES

413-405 PEER COUNSELING 3 Cr. A laboratory experience with a two-fold objective: (1) to train class participants as peer counselors; and (2) as trainees to other peer groups to counsel among themselves utilizing skills in listening, giving support and providing alternatives through verbal and non-verbal interaction.

413-444 INTRODUCTION TO GROUP PROCESSES 2 Cr. Principles of group

processes and the appropriateness of their application in various settings.

413-501 INTRODUCTION TO GUIDANCE 2 Cr. An overview of policies and practices of organized guidance programs in educational settings. Emphasis is given to historical, philosophical, and cultural bases for guidance services; guidance techniques for teachers; and cooperative efforts of teachers, parents and counselors.

413-510 EARLY CHILDHOOD ASSESSMENT 3 Cr. Introduction to the theory and techniques of assessing child development from birth through eight years of age in areas such as cognitive, psychomotor and socio-emotional.

413-600 WORKSHOP: SPECIAL TOPICS IN COUNSELING AND PSYCHOLOGICAL SERVICES 1-2 Cr. Current specialized topics studied through experimental activities. Prerequisite: Approval of instructor.

413-629 GUIDANCE IN THE ELEMENTARY SCHOOL 2 Cr. The nature and conditions of guidance in the elementary school. Curricular and non-curricular guidance techniques, referrals, and parent counseling. Recommended principles and practices in guidance applied to the elementary school child.

413-634 TECHNICAL-VOCATIONAL EDUCATION STUDENT 2 Cr. Review of characteristics of vocational and technical students as it affects their social, physical, emotional and intellectual development in the transition from adolescence to young adulthood. Implications for guidance, counseling, and vocational education.

413-647 BEHAVIOR PROBLEMS OF CHILDREN 2 Cr. Understanding the psychological, social and environmental factors which contribute to the developing child's behavior. Primary emphasis is on the cause and treatment of behavioral disorders in children three through twelve. Included: methods of observing, diagnosing, documenting and interpreting and underlying behavioral dynamics of problem children. Prerequisites: 479-730, 479-760 or consent of instructor.

413-648 LEARNING DISABILITIES IN YOUNG CHILDREN 2 Cr. Stresses early recognition, through observation and use of screening instruments, of general and specific developmental delays in the young child, and programming to maximize readiness for academic learning.

413-650 BEHAVIOR PROBLEMS OF ADOLESCENTS 2 Cr. Problem behaviors of contemporary American adolescents. Identification, etiology, intervention and prevention. Emphasis on guidance techniques and processes for teachers, counselors, school psychologists, social services and child care workers, parents.

413-666 ALCOHOLISM AND FAMILY SYSTEMS INTERVENTION 2 Cr. The role of alcoholism in the family and how to intervene therapeutically.

413-675 COUNSELING THEORY 2 Cr. The examination of theoretical approaches to counseling, including psychoanalytic adaptations, behaviorism, trait-factor, client-centered and other approaches. Each approach is examined concerning the nature of man, the underlying personality theory, goals of counseling, the role of counselor, and illustrative practical applications. The major objective of the course is to develop a beginning personal theory of counseling. Prerequisite: 413-501.

413-691 THEORIES OF CAREER DEVELOPMENT 2 Cr. A study of the psychology of work including career development, the meaning of work, job satisfaction and factors in career choice. Prerequisite: 413-501, senior or graduate standing.

413-694 COUNSELING OLDER PERSONS 2-3 Cr. Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

EDUCATION

421-205 HUMAN RELATIONS FOR THE HELPING PROFESSIONS 2 Cr. An experiential seminar aimed at the improvement of human interaction and the human condition through the development of communication and behavioral skills.

421-280 READING IMPROVEMENT 1-2 Cr. Skill instruction in reading study skills. Application of skills to student's textbooks and materials.

421-303 EDUCATIONAL PSYCHOLOGY 2 Cr. Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change. Prerequisite: 479-110.

421-305 TEACHING PRACTICUM 2 Cr. Practical experience in developing the prospective teacher's ability in specific well defined teaching skills. Prerequisite: 421-205.

421-326 FOUNDATIONS OF EDUCATION 2 Cr. Historical background, status, trends and organization of U.S. education; understandings vital to students before they begin student teaching. Includes professional roles, expectations, rewards and frustrations, resources, control, finance and philosophy.

421-405 STUDENT TEACHING 8 Cr. Experience in applying the theories and skills involved in teaching and learning under the guidance of a master teacher in selected off-campus schools. Prerequisite: 421-205, 421-305, 421-536, 421-538, 421-540, 421-641; overall grade point average of 2.25; satisfactory health, speech and English.

421-406 INTERN TEACHING 8 Cr. An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Prerequisite: 421-205, 421-305, 421-536, 421-538, 421-540, 421-641; overall grade point average of 2.25; satisfactory health, speech and English.

421-422 PRINCIPLES OF SECONDARY EDUCATION 2 Cr. The evolution, status, and trends of secondary education. Needs of our democratic society; philosophy, organizational problems, curriculum development, and the responsibilities of the individual teacher as related to students before they begin student teaching. Prerequisite: 479-110.

421-438 CURRICULUM DEVELOPMENT 2 Cr. Intensive study and practice of the procedures involved in course construction culminating in a course of study appropriate to the student's major or minor.

421-440 MANAGEMENT OF THE LEARNING ENVIRONMENT 2 Cr. Alternative practices and procedures involved in the effective management of the learning environment. Prerequisite: 421-205, 421-538.

421-495 PERSONAL LEARNING EXPERIENCE 2 Cr. An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience.

421-522 SECONDARY EDUCATION SEMINAR 2 Cr. For post-student teaching, discussion of the evaluation, status, and trends of secondary education. The experiences of the students' teaching related to the needs of our democratic society; philosophy, organization problems, curriculum development; and the responsibilities of the individual teacher.

421-536 WORKING WITH THE CULTURALLY DIFFERENT 2 Cr. Intensive study and practical experience in working with the culturally different. Prerequisite: 421-205.

421-590 MENTAL HEALTH IN THE SCHOOLS 2 Cr. A study of the total school community in terms of factors and dynamics contributing to the development or hindrance of the mental health of students, staff, administration, parents. Prerequisite: Junior or senior standing.

421-641 EDUCATIONAL EVALUATION 2 Cr. Testing, the interpretation of tests by means of simple statistical procedures; methods of evaluating educational programs.

421-672 COGNITIVE STYLE APPLICATION 1 Cr. This course (seminar) is designed to allow a person knowledgeable in cognitive style theory (as taught in 421-690) to do an in-depth study of its application in a school or campus setting. Alternative methods will be presented and discussed. Prerequisite: 421-690 or equivalent desirable.

421-682 READING METHODS—SECONDARY SCHOOLS 2 Cr. Technical information on the reading processes, self-concept and reading and specific classroom reading problems. Construction of Directed Reading Activities, Informal Reading Inventories, Reading Study Guides, readability checks, SQ3R study skills, vocabulary development and comprehension materials. Prerequisite: Junior or senior standing or instructor's approval.

421-683 SEMINAR IN READING METHODS FOR SECONDARY SCHOOLS 1 Cr. Selection, research, and presentation for discussion of topics related to reading in secondary schools. Prerequisite: 421-682.

421-684 TECHNICAL READING METHODS 1 Cr. Methods of reading technical writing with emphasis on identification of the problems and methods of teaching to improve classroom success in reading technical media. Prerequisite: 421-682 or consent of instructor.

421-685 PSYCHOLOGY OF ADULT EDUCATION 2 Cr. A global view of the philosophy, purpose and practice in various

programs of adult education and an examination of the characteristics of the adult learner plus a profile of his ego, intelligence, and development.

421-690 THE EDUCATIONAL SCIENCES 2 Cr. An introduction to the educational sciences, including cognitive mapping. Emphasis is placed on the practical application of the educational sciences in an educational setting. Prerequisite: Junior standing.

SPECIAL EDUCATION

431-480 STUDENT TEACHING WITH HANDICAPPED YOUTH 8 Cr. Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents. Prerequisite: 431-662, 431-661.

431-501 LEARNING DISABILITIES 3 Cr. Identification, remediation, and evaluation of the learning disabled, emphasizing intervention techniques used with adolescents and adults.

431-532 PSYCHOLOGY OF THE EXCEPTIONAL CHILD 2-3 Cr. Guidance of the learning and development of children who deviate from the normal; the mentally retarded, gifted, socially and emotionally disturbed, and those with visual, speech and orthopedic problems.

431-555 ISSUES IN SPECIAL EDUCATION 2 Cr. Acquaintance with current and controversial issues in special education. Prerequisite: 431-532.

431-559 CURRICULUM FOR THE RETARDED 2 Cr. Program planning for sec-

ondary special education (MR) with specific scope and sequence, learning activities, and evaluation techniques for language arts, math, social sciences and science. Prerequisite: 421-538 and 431-560 to be taken concurrently with 431-559.

431-560 SPECIAL EDUCATION METHODS AND MATERIALS 3 Cr. Design , development and content of curriculum for secondary educable mentally retarded (EMR) students; materials and methods of presentation. Prerequisite: 431-532.

431-561 PRESCRIPTIVE DIAGNOSTIC TEACHING 3 Cr. A systematic approach to develop skills to diagnose, teach, and organize special education programs. Instructional activities are designed to develop in students the requisite skills to ameliorate behavior and learning problems of handicapped youth. Prerequisite: Instructor's permission and concurrent enrollment in 431-560 and 431-562.

431-562 CLINICAL EXPERIENCE WITH HANDICAPPED YOUTH 2 Cr. On campus work and study experiences in educational settings with handicapped youth. This course may be repeated. Prerequisite: Instructor's permission, concurrent enrollment in 431-560 and 431-561.

431-565 ACADEMIC INSTRUCTION FOR MENTALLY RETARDED 2 Cr. Various techniques and approaches to teaching basic and functional academics to the EMR students. Prerequisites: Completion of 431-559 and 431-560.

431-581 LEGAL RIGHTS OF HANDICAPPED 2 Cr. Current litigation, civil commitment, criminal proceedings, federal and state statutes, and civil rights regard-

ing the handicapped student and adult. Prerequisite: 431-532.

431-585 INTRODUCTION TO MENTAL RETARDATION 2 Cr. An introduction to the etiology of mental retardation; the psychological, educational, social, and vocational aspects; and adjustment techniques used in working with mentally retarded persons.

431-595 THE GIFTED STUDENT 2 Cr. Characteristics of gifted, creative, and talented individuals. Identification of gifted in educational settings and focus on social, psychological, and educational aspects of providing for the gifted throughout the school years.

431-630 MAINSTREAMING SPECIAL STUDENTS 3 Cr. This course examines the characteristics of those students who are slow learners due to below average intelligence, learning disabilities, cultural and social differences, emotional problems, and other causes, and considers the implications for educational practice. Prerequisite: Senior or graduate standing.

431-660 PRACTICUM IN SPECIAL EDUCATION 2 Cr. Off campus work and study experiences in educational settings with handicapped youth. This course may be repeated. Prerequisites: Instructor's permission. Concurrent enrollment in 431-661 and 431-662.

431-661 CAREER EDUCATION FOR HANDICAPPED YOUTH 3 Cr. Techniques for interviewing, planning, and directing school programs of career choice with handicapped adolescents. Class activities will include community job surveys, work placement and work supervision. Prerequisite: 431-660.

431-662 CLASSROOM MANAGEMENT TECHNIQUES 3 Cr. Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance the learning of pupils.

VOCATIONAL REHABILITATION

459-x98 FIELD EXPERIENCE—VOCATIONAL REHABILITATION 2 Cr. Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. Prerequisite: 459-101.

459-101 INTRODUCTION TO REHABILITATION 3 Cr. An introduction to serving handicapped and disadvantaged persons. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

459-102 COMMUNITY RESOURCES 3 Cr. A review of community resources and their respective role in rehabilitation. Prerequisite: 459-101.

459-201 BASIC SKILLS IN REHABILITATION 2 Cr. Development of basic competencies required in most rehabilitation specialties: Interviewing, behavioral observation, developing case files, utilizing media materials, report writing, and utilizing occupational information. Prerequisite: 459-101 and 459-102.

459-205 REHABILITATION PRACTICUM 4 Cr. Direct experience working with handicapped clients and members of the helping professions in rehabilitation settings. Prerequisite: 459-201.

459-310 VOCATIONAL EVALUATION 4 Cr. Methods of vocational evaluation including work samples, psychometric testing, situational assessment, techniques of job classification, and report writing. Prerequisite: 459-201.

459-311 ADJUSTMENT SERVICES 3 Cr. Principles and procedures of adjustment service as a treatment process for disabled individuals. Emphasis on development of adjustment plans, implementation of the plans, and evaluating the results. Prerequisite: 459-201.

459-325 REHABILITATION OF THE SENSORY DISABLED 3 Cr. An introduction to the deaf, blind, and deaf-blind. Methods and techniques used in sensory disability rehabilitation are discussed. Prerequisite: 459-201.

459-330 PSYCHO-SOCIAL ASPECTS OF DISABILITIES 3 Cr. Nature, etiology, and methods of dealing with the problems of the physically and emotionally handicapped. Prerequisites: 308-220, 459-201, and 479-561.

459-401 PRINCIPLES AND TECHNIQUES OF CASELOAD MANAGEMENT 2 Cr. Principles and techniques necessary to implement caseload management in the delivery of services to clients involved with state vocational rehabilitation counseling agencies or rehabilitation facilities. Prerequisite: 459-330.

459-402 REHABILITATION FACILITY OPERATIONS 3 Cr. Principles and practices in the operation of rehabilitation facilities. Stress is on knowledge of laws, volunteer programs, budgeting practices, and determination of program effectiveness. Prerequisite: 459-201.

459-410 PLACEMENT PROCESSES WITH THE HANDICAPPED 3 Cr. Theory and methods of placement techniques for handicapped individuals. Prerequisite: 459-201.

459-413 VOCATIONAL EVALUATION SEMINAR 2 Cr. Methods of determining resources in community in terms of training and job placement relative to rehabilitation client needs and analyzing jobs in order to develop evaluation tools to assess rehabilitation client potential for local training and job placement. Prerequisites: 459-310 and 459-610 or permission of instructor.

459-505 SIGN LANGUAGE I 3 Cr. Basic course in manual communication with the deaf. Intensive practice in expressive and receptive communication. Prerequisite: 459-201 or graduate standing.

459-506 SIGN LANGUAGE II 3 Cr. Intermediate course in manual communication with the deaf. Emphasis on American Sign Language and increasing sign vocabulary and communication speed. Prerequisite: 459-505.

459-509 INTRODUCTION TO BIOFEEDBACK 3 Cr. Theory and applications of biofeedback as applied to the fields of psychology, rehabilitation, medicine and education. Gives students an in-depth review of the field, knowledge concerning appropriate uses of biofeedback when considered as a referral possibility and prepares students to enter a supervised clinical biofeedback experience. Prerequisites: 479-110 and 308-132.

459-510 CLINICAL BIOFEEDBACK LABORATORY 3 Cr. Development of clinical skills and familiarization with laboratory monitoring devices and stress man-

agement techniques, as they apply to the training of clients in a clinical biofeedback setting. The course also reviews current clinical research, future directions for the field and ethical considerations. Prerequisites: 459-509, 308-220, 413-405 and consent of instructor.

459-520 REHABILITATION OF THE CHEMICALLY DEPENDENT 3 Cr. Background in the field of chemical dependency with emphasis on the rehabilitation aspects of the chemically dependent and knowledge of the historical and sociological implications of drug usage. Prerequisite: 459-201 and junior or graduate standing.

459-525 REHABILITATION OF THE PUBLIC OFFENDER 3 Cr. Examination of the field of corrections as concerns the individual and criminal justice institutions. Basic legal terms, laws, types of institutions and treatment modalities: effectiveness and trends of items in the criminal justice field. Prerequisites: 459-201 and 479-561 or graduate standing.

459-585 REHABILITATION OF THE MENTALLY RETARDED 2 Cr. Background in mental retardation with emphasis on vocational evaluation, adult education, and adjustment techniques used with mentally retarded adults. Prerequisite: 459-201 or graduate standing.

459-587 MANAGEMENT OF HANDICAPPED WORKERS IN BUSINESS AND INDUSTRY 3 Cr. Orientation to handicapped workers in business and industry. Focus is upon the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of handicapped workers. Emphasis upon governmental requirements for conformance, linkage between business and rehabilitation, community resources, and

staff development. Prerequisite: Junior, senior or graduate standing.

459-610 PSYCHOLOGICAL TESTING WITH HANDICAPPED PEOPLE 2 Cr. An introduction to psychometric tests. Administration, interpretation/scoring, and application to handicapped populations.

459-680 PRINCIPLES OF REHABILITATION COUNSELING 3 Cr. Theory and application of counseling processes in rehabilitation settings. Prerequisite: 479-561 and 413-675.

459-682 SEXUALITY AND THE DISABLED 2 Cr. Programs in sexuality, terms and techniques, exploration of personal biases and development of techniques for dealing with sexuality of disabled individuals. Prerequisites: 459-330 and 459-680 or graduate standing.

459-685 GROUP PROCESSES IN REHABILITATION SETTINGS 2 Cr. Theory and application of group processes in rehabilitation settings. Lecture will focus on theory and application and the weekly laboratory exercises will provide student with direct experience as a member and facilitator of a group. Prerequisite: 459-761 for graduate students and 459-680 for undergraduate students.

PSYCHOLOGY

479-100 PSYCHOLOGY SEMINAR I—(FOUNDATIONS) 1 Cr. The first of a continuing seminar will be a gathering of 15-20 students beginning their study of human behavior at Stout. Each member will present information and ideas from courses, from campus and world learning experiences. Each will assess, with the help

of a qualified person, his own aptitudes, interests and characteristics comparing them with those needed in psychology. An individual program plan will be developed. The seminar will be repeated until all introductory psychology courses have been successfully completed and an acceptable program has been planned.

479-110 GENERAL PSYCHOLOGY 3 Cr. An introduction to the field of psychology as an academic discipline and as an applied human science. Primary emphasis is placed on the topics of scientific methodology in psychology, learning, perception, motivation, development, individual differences, mental health, cognitive behavior, the physiological basis for behavior, and on the applications of psychological principles to human experience.

479-120 PSYCHOLOGY: ITS HISTORY AND SYSTEMS 3 Cr. A comprehensive survey of the history of psychology and of the basic systems which have developed into modern American psychology. Treatment is given both to the philosophic development of psychology and to the evolution of psychology as a behavioral science. A major emphasis is placed on the development of psychology in the 19th and 20th Centuries in western Europe and the United States with the schools of thought: Structuralism, Functionalism, Behaviorism, Gestalt Psychology, and Dynamic Psychology receiving primary considerations. The state of modern psychology is considered and the contributions of a number of contemporary psychologists are examined.

479-150 MAN: A COURSE OF STUDY 3 Cr. The course will address the question of "Who am I?" from a contemporary horizon where concerns of psychology intersect biology, philosophy, sociology, anthropology, history, and religion. From there

we move toward possible answers to man's perennial questions about himself and his future through readings and discussions of key works. The overall objective of the course will be to help the student construct, for himself, a viable answer to the classical question "Why am I?"

479-190 PSYCHOLOGICAL METHODS I 3 Cr. This course introduces the student to research in the behavioral sciences. Observational, clinical, historical, correlational, descriptive, and experimental techniques are introduced and evaluated. Through the study of contemporary psychological research, the student gains evaluative principles which will enable him to be an intelligent research consumer.

479-251 CHILD PSYCHOLOGY 3 Cr. A study of the total psychological development of children emphasizing age groups spanning the pre-school and pre-pubescent child and methods for scientific measurement and understanding of child behavior. Prerequisite: 479-110.

479-281 ENVIRONMENTAL PSYCHOLOGY 3 Cr. Psychological aspects of person/environment interaction. People impacts on environment, and environmental impacts on people. Aspects of recreational environment, population density, and stress factors. Prerequisite: 308-150 Man and the Environment or 308-122 Biology: An Environmental Approach.

479-300 PSYCHOLOGY SEMINAR II 1 Cr. This will be the second-level seminar for the psychology program. The first level builds a foundation and helps students know whether or not psychology is for them. The second-level or "Synthesis" seminar is for those students who have decided definitely to complete the psychology program at Stout. It will provide a place for students and faculty to meet on a weekly

basis to discuss topics of common interest arising from each person's total program. Prerequisite: 479-100.

479-390 EXPERIMENTAL PSYCHOLOGY 3 Cr. This course serves as an introduction to the methodology and content of experimental psychology. This course is built around the concept of behavioral objectives which are used for guiding the learning process, and evaluating that process. Upon successful completion of this course, the student will be capable of formulating a psychological problem, designing an experiment to investigate this problem, planning all aspects of the experimental process, conducting a well run experiment, analyzing and interpreting results and evaluating the experiment. Prerequisite: 354-130.

479-400 PSYCHOLOGY SEMINAR III 1 Cr. The final portion of the continuing seminar series for Psychology majors. Each student will develop and conduct an original investigation and report his findings in a formal research paper as an indication of his achievement of program competencies. Other activities will center around the student's movement into graduate school and/or the employment market. Prerequisite: 479-300.

479-460 PERSONALITY AND MENTAL HEALTH 3 Cr. An introduction to the areas of psychology which are concerned with the recognition of the positive principles of mental health and their application to human behavior. In addition, an examination is made of a variety of theories which are representative of the major views of leading thinkers on the subject of personality and personality development.

479-484 INTRODUCTION TO BEHAVIOR MODIFICATION 2 Cr. Introduc-

tion to the applied analysis of behavior. Emphasis on the fundamentals of behavior modification and applications to a variety of behavioral environments. Prerequisite: Junior standing and at least three psychology courses or consent of instructor.

479-530 PSYCHOLOGY OF LEARNING 3 Cr. A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized.

479-535 MOTIVATION AND EMOTION 3 Cr. An experimentally oriented introduction to the fundamental principles of motivation and emotion. Prerequisite: 479-110, junior standing and nine or more credit hours in psychology or consent of instructor.

479-552 ADOLESCENT PSYCHOLOGY 3 Cr. The physical, emotional, social, moral, and intellectual development of secondary school youth. Prerequisite: 479-110.

479-561 ABNORMAL PSYCHOLOGY 3 Cr. A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied.

479-570 ASSERTIVE TRAINING PROCEDURES 2 Cr. Training in interpersonal behavior and communications in which persons learn to defend their legitimate rights without violating the rights of others.

479-571 THE PSYCHOLOGY OF MARRIAGE AND THE FAMILY 2 Cr. A study of the interpersonal relations in-

volved in dating, mating, and family collaboration with growing awareness of patterns for self-integration.

479-574 PSYCHOLOGY OF WOMEN 2 Cr. The myths and stereotypes of early psychoanalytic view of woman, critical issues and events of female experience from prenatal through adulthood; meaning of sexuality, contemporary life-styles, and the meaning of aging. Prerequisite: 479-110.

479-579 PUBLIC RELATIONS 2 Cr. Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

479-581 INDUSTRIAL PSYCHOLOGY 2 Cr. A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. Prerequisite: 479-110.

479-582 PERSONNEL MANAGEMENT 3 Cr. Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation.

479-632 PERCEPTION 3 Cr. This course serves as an introduction to human perception. The content of the course is structured around an information processing model,

with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

479-690 PSYCHOLOGICAL MEASUREMENT 3 Cr. An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions.

TRANSDISCIPLINARY

500-100 APPLIED STUDENT LEADERSHIP 2 Cr. Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice.

500-100A,B,C,D APPLIED STUDENT LEADERSHIP .5 Cr. Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. This course cannot be taken by anyone who has taken 500-100.

500-510 INTRODUCTION TO WOMEN'S STUDIES 2 Cr. An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future.

LEARNING RESOURCES

MEDIA TECHNOLOGY

600-504 ELEMENTARY PHOTOGRAPHY 2 Cr. Fundamentals of photography including aesthetics, basic theory, camera operation, film selection, lighting, roll film processing, contact printing, enlarging and print finishing. Student must provide his own camera.

600-535 FILM: HISTORY AND APPRECIATION 3 Cr. Traces the evolution of the motion picture film as a medium of mass communication and aesthetic expression; contributions of noted film producers are identified.

600-560 AUDIO-VISUAL COMMUNICATIONS 2 Cr. Methods of evaluating and using audio-visual materials effectively in teaching. Experience in operating equipment; basic techniques of media preparation.

600-561 PREPARATION OF AUDIO-VISUAL MATERIALS 2 Cr. Planning, designing and producing bulletin, felt, hook-and-loop, and slide/tape presentations; charts, graphs, posters, models, work-ups, transparencies; mounting, laminating and display techniques. Prerequisite: 600-560.

600-573 EDUCATIONAL TELEVISION UTILIZATION 1 Cr. Effective utilization and evaluation of telelessons in teaching; operation of TV receiving and

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